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HAPPY BIRTHDAY

>>3DCreative is one year old, and we like cake!

GRZESIEK JONKAJTYS

>>On Directing his new Film 'The Ark' by BAFTA award winning studio Platige Image



SWORDMASTER

>>Continuing complete character creation monthly tutorial for 3DSMax, Maya, Lightwave, C4D & XSI

BATMAN BEGINS

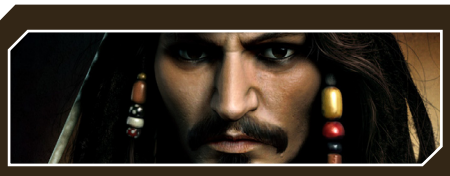
>>Behind the scenes of the Return of the dark Knight

ERICK MILLER

>>Author of Hyper Realistic Character Creation and industry Veteran

COLOUR TUTORIAL SERIES - PART 3

>>Richard Minh Le rounds off his colour theory tutorial.





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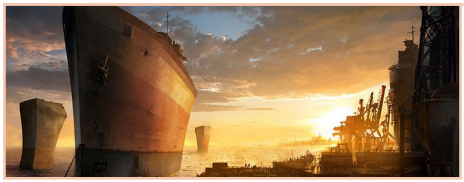
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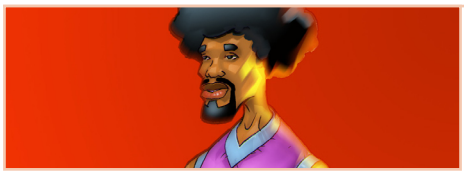
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Erick Miller
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Siku

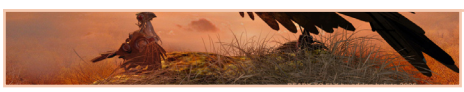
MAKING OF
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on the cover

HAPPY BIRTHDAY
We are one! Thanks for all your support!!

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Welcome

To the 13th Issue of 3DCreative. Which means, it is our first birthday issue and we are still not quite sure how we made it this far ;-) Hopefully (at least we would like to think) its because the mag is just so darn amazing! Or is it because you just cant get this much quality content for only $4!! Who knows, but thanks again for purchasing this mag and helping towards yet another year of quality magazines. We have a lot planned for this year so keep coming back to check us out and pass the word around! Also, don't forget that buying back issues of the mag is now even easier. Go to www.3dcreativemag.com to view all of the details on each issue and purchase your download links.



About Us

Zoo Publishing is a new company comprising of a small team here in the Midlands, UK. This magazine is our first project which we are hoping, with the support of the community, will build into a great resource and a highly anticipated monthly release. The 'support of the community' is an interesting point, where a 'magazine for 3d artists' is not an original idea, the marketing and distribution of this magazine, as far as we know, is a first. It follows the principle of traditional magazines that are sold on news stands and in many outlets, but being a digital downloadable mag the many established web communities on the net are our outlets and newsstands.

3DCreative is supported by 3dexcellence, 3dkingdom, 3dlinks, 3dm, 3dmonkeys, 3dnuts, 3dpalace, 3dresources, 3dtotal, 3dvalley,123d, ambiguous arts, cgchannel, cgdirectory, cgfocus, cgunderground, childplaystudios, daz3d, deathfall, digitaltutors, kurv studio, max-realms, mediaworks, rendezvous3D, spinquad, subdivision, the3dstudio, thebest3d, vocanson & vanishingpoint.

We look forward to lasting and successful partnerships with these CG community sites.









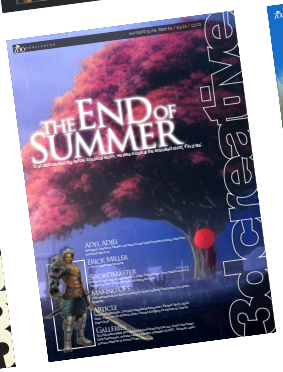






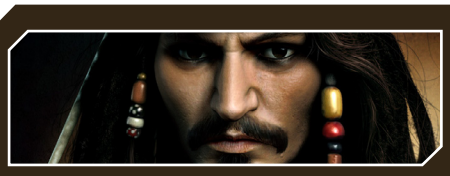














Luciano Iurino

I started back in 1994 with 3DStudio on MS-Dos as modeler/ texture artist. In 2001 I co-founded PM Studios & I still work for it as Lead 3D Artist. Recently we have developed the videogame "ETROM – The Astral Essence". I also work as freelancer for different magazines, web-portals, gfx and videogame companies. Recently I left the 3dsmax environment to move on XSI.

iuri@pmstudios.it



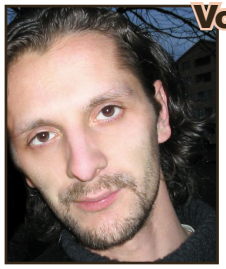


Bogdan I. Suman Horduna



3D VFX artist Iasi, Romania. I started back in 1999 with 3D Studio Max but in 2000 trained in Maya. I've been a modeller and texturer for few 3D animated movies & two games. Also a modeller, dynamics & particles, lights & render supervisor for many commercials, musical video clips and industrial presentations.

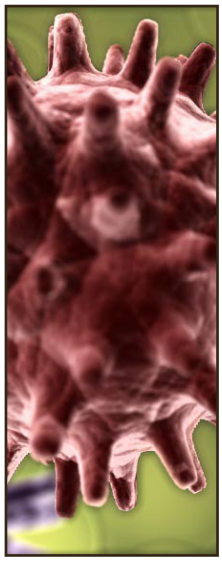
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Vojislav Milanovic

3D modeler, animator, & vfx compositor, Anigraph studio, Self taught all-round 3D guy, started to doodle around in 3D about 8 years ago. In the last 5 years I have done a lot of various things from print and TV ads to gaming & movie graphics.Currently involved in multimedia study & character developing for an animated feature movie. One of my goals is to make my own animated movie

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Giuseppe Guglielmucci



Freelance 3d modeler / Animator. I began to use computers with the epoch of the vic20 & Cinema4d was my 1st 3d software. I started working in the field of CG in 1999 in commercial design. In 2003 I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm hoping to work in the video-games industry and develop my own game.

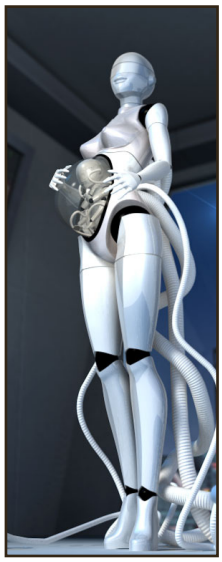
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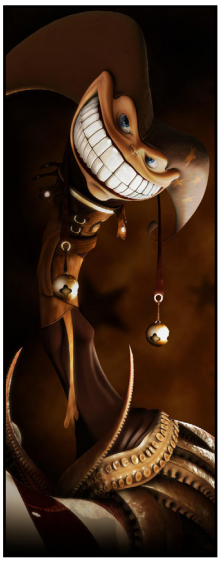


Niki Bartucci

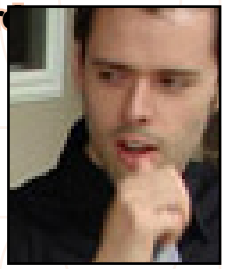
Freelance 3d modeler, Italy. I started working in the field of Computer Graphics in 2000 as an illustrator & web designer. In 2003 I started using 3d software such as C4D & later 3dSMax. That year I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm a freelancer & specialise in commercials. I especially like RPG & RTS video-games.

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Jonathan Simard

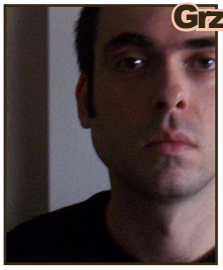


3D Animator, Beenox Canada. I start studying CG 4 years ago at the NAD Center. I was hired at Ubisoft, Montreal as an animator & I worked on projects such as Far Cry Instinct, Prince of Persia 3 & Assassins creed. I left Montreal for Quebec & now work at Beenox. Currently, I'm working with a friend to start a little studio to devellop short movies.

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Contributing Artists This Months



Grzesiek Jonkajtys

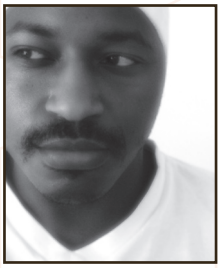
I Graduated from The Department of Graphics at the Academy of Fine Art in Warsaw in 1997. I received an honorable mention from the dean of the Academy. I have devoted my professional career to the issues of visual communication with the aid of new media (the Internet, CD/DVD-ROM, short animated films).

jonkajtys@noir.org
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Siku



Concept artist / designer/comic book author> Fresh from Art College I worked as an advertising visualiser and designer. I then moved on to comics where my work was published for several years in 2000AD stripes under titles such as Judge Dredd, Slaine and a strip I co-created called Pan-African Judges.

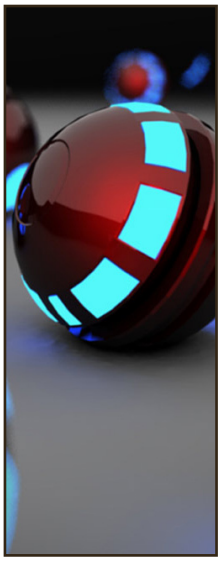
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Richard Minh Le

3d artist, Australia. Pencil and oil pastel were my only tools until I started my Architecture degree at RMIT, where I was first introduced to 3dsMax and PS. My first professional work that involved texture painting and animation came to me in mid-2004 at SIAL lab. I am now working full-time as a 3D artist.at RushWright Associates.

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David Munoz Velazquez



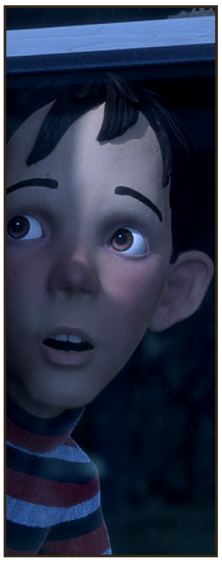
3D/2D Freelance Artist, Barcelona, Spain. I started studying Graphic Design when I was 14, then left school to do some freelance Graphic Design work for a while. I then discovered 3D, which whilst I used it on my own work I was learning more deeply. I was hired into the game industry and up to now I'm doing every aspect of art that I can.

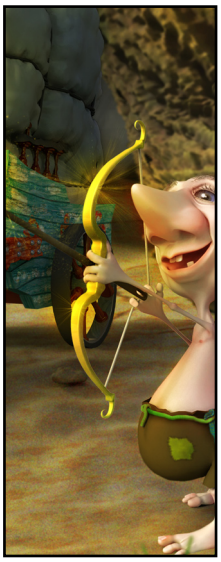
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Erick Miller

Character Setup Supervisor at Sony Pictures Imageworks, has been a Maya® user since its inception at version 1.0. Currently, Erick is finishing the all-CG Sony Pictures® Animation feature, Surf's Up. Prior to Surf's Up, while at Imageworks, Erick did facial rigging for the all-CG feature, Monster House, and also built a muscle and skin system for the visual effects feature Ghost Rider®.





Yaşar Soner Yurtseven



Freelance 3d modeler & concept artist. Started working and studying on 3d arts in 2002. Graduated from the fine arts faculty in Istanbul in 2004. Worked as a concept designer in the arthitecture industry for 1 year. Won 3rd place in The CGSociety challenge 'The Journey Begins". Now working as a freelance 3d modeler and concept artist. Hoping to work in computer games and animation film industry.

www.simurgstudio.com info@simurgstudio.com

The Original Total Texture collection was created in 2001, utilising the best methods and technology of the time. Since then, techniques and technology have both moved forward, and here at 3DTotal we felt that although the original collection is still widely used and highly regarded among artists and studios of all calibers, it was time for an update...

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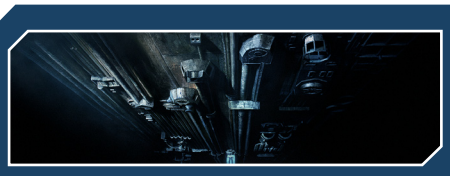
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grzesiek jonkajtys

In 2000 Grzesiek made a short animated film called “Mantis” on his own. It won numerous prizes at film festivals in Poland & abroad. He has worked for Platige Image, & now for Cafe FX where he makes digital special effects for feature films. He has worked on the production of such films as “The League of Gentlemen”, “Gothika”, “Hellboy”, “Sin City” & “Pan’s Labyrinth”. He has just finished directing his first film “The Ark”. which will be shown in cinemas at the end of this year.



grzesiek jonkajtys

Hi Greg. Thanks for talking to us. Tell me, where are you currently working?

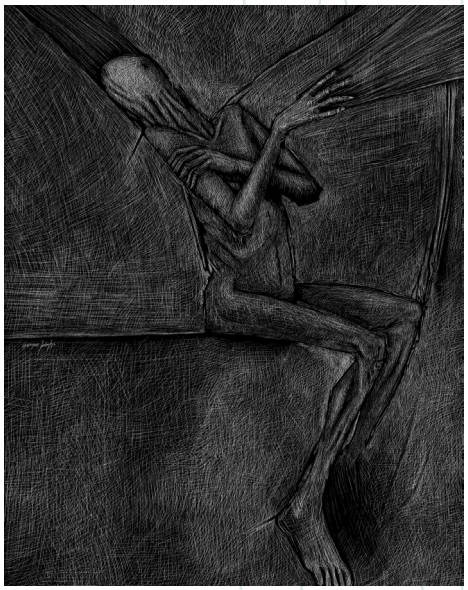
Hi. Currently I'm working on the most anticipated movie of this summer - Snakes on a Plane (hic) as well on a personal project , short film "the Ark"

And what have you worked on recently?

I had the pleasure to work on Guillermo del Toro's film "Pan's Labyrinth" as a lead animator.



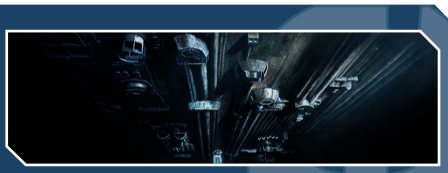




It was a big character project, great story and visuals. I was responsible for animating and rigging of some of the CG creatures that appear in the film. Along with Sin City, that was the most rewarding feature project I have ever worked on.

Snakes on a plane has a huge pre-release Internet following. What did you do on the movie?

I had the chance to rig and animate one really, really big snake. The shot I was working on is going to make lot of people laugh in the theatre ;), but before the film release, that's all I can say about it.

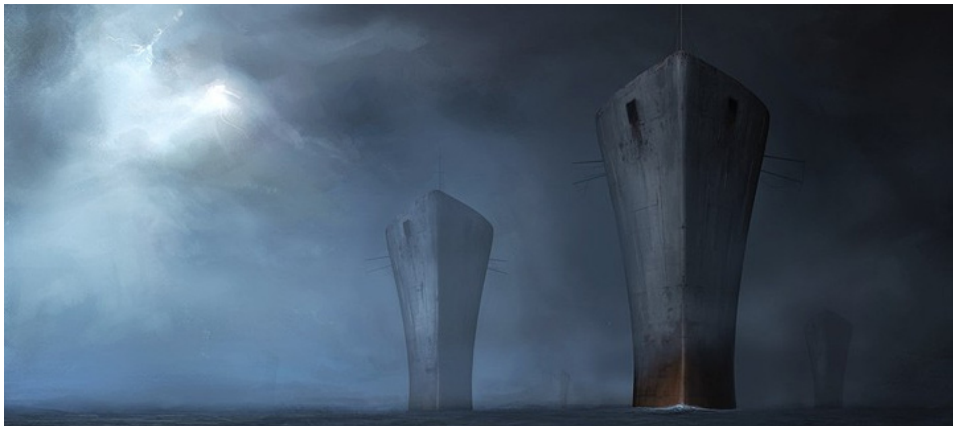


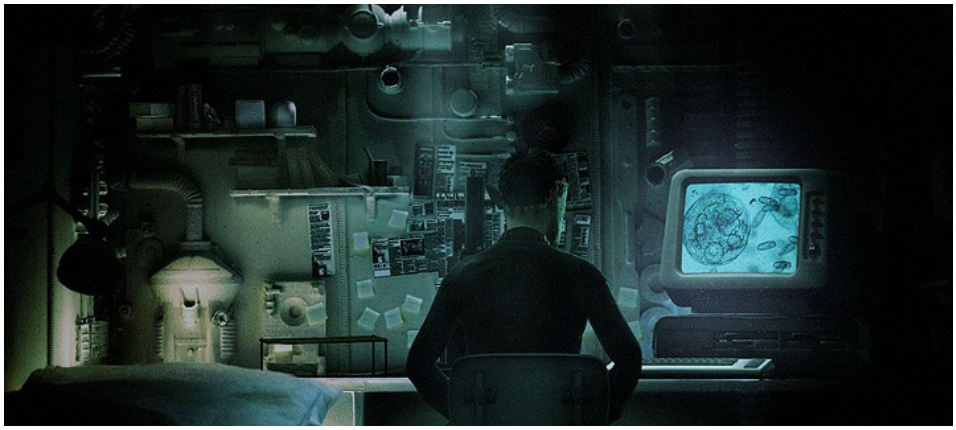


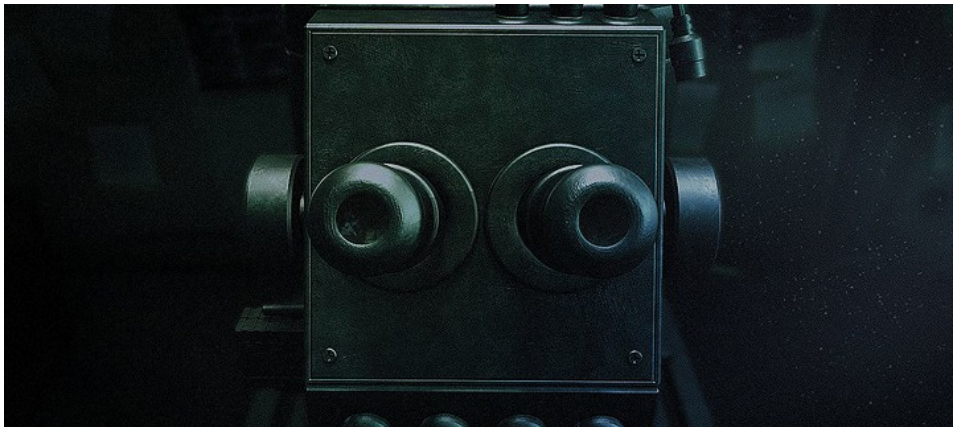


Your skills range from Illustration work to 3D Animation, how important do you think it is to have these skills in relation to each other?

Depending on what your tasks are in 3D, its really good to have some background knowledge and I find traditional art skills most important. After all the final product is an image, and nothing helps to achieve the goal better than a traditional understanding of colour, composition and drawing. Simply being able to sketch, design, and visualise your shot on paper before you even touch the computer, shortens the amount of time you going to spend on Research & Development for the project. Art skills help you know what you want without spending hours and days of unnecessary CG tryouts.









Which areas of your work do you enjoy the most?

Everything. Literally. The most rewarding is the composition of the shot though, putting all the elements together and adding those final touches.

Mantis, your animated short film, that must have been an enormous undertaking for 1 person?

It was pretty painful but I had a great time. I was working on it by myself, using one Power Mac workstation and Cinema 4D. I have learned a lot.

Sounds like a 'Rustboy' scenario! What sort of problems did you have back then compared to things that can be easily overcome now?

OPEN GL on a Mac. It was not possible to use one (constant crashes). I had to turn it off, and animate entire film without any 3D acceleration. the screen refresh times where huge.. I don't even want to go back to this now.;) It was painful.

Do you work on personal projects when you have time? If so, what can we see of them?

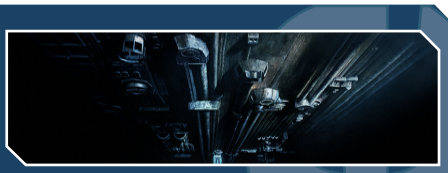
Yes, I work on my personal stuff mostly after hours, evenings, long evenings, and weekends. The latest one is my short "ARK" you can see the trailer for it at www.thearkfilm.com

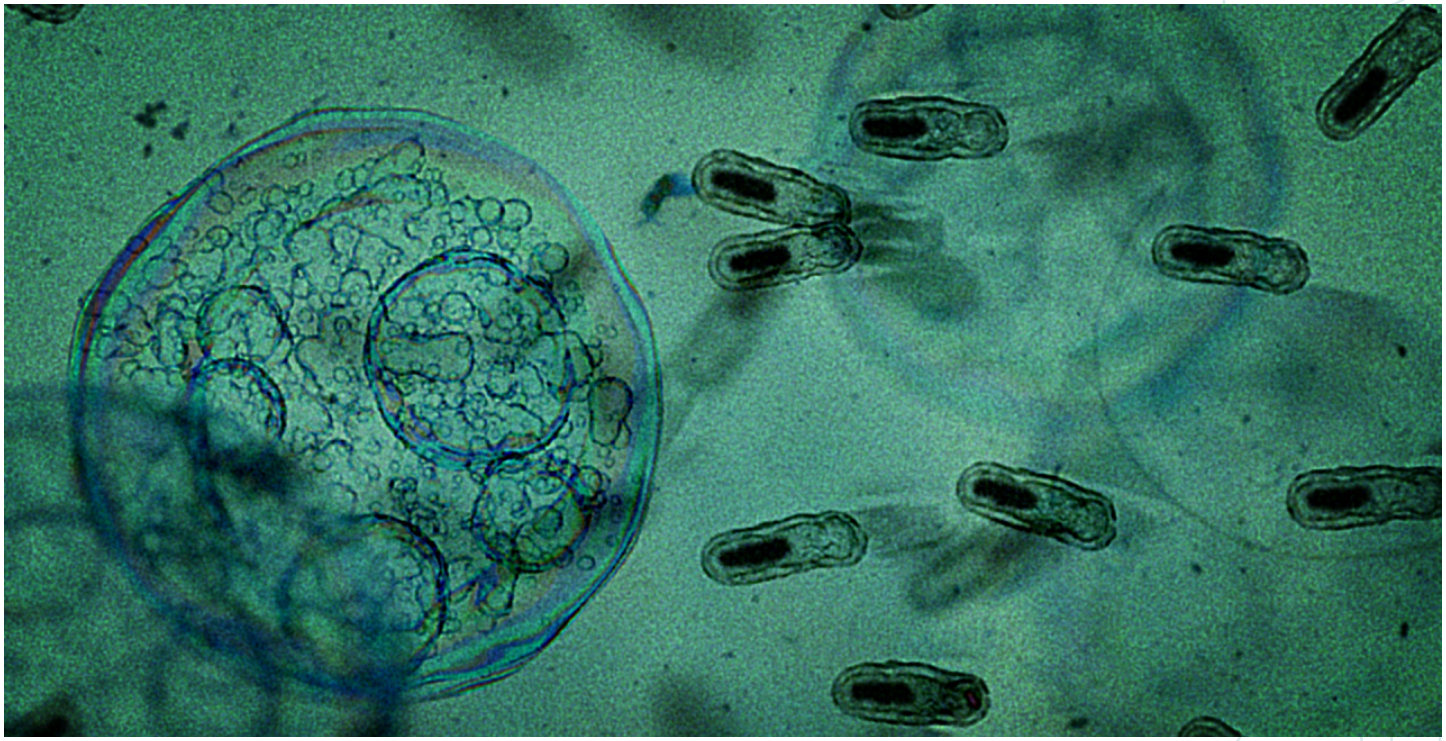
How many of you are working on the 'Ark'?

There are a bunch of people helping me out with this short. The whole crew list can be found on www.thearkfilm.com I am very thankful for their help.

And what is the concept behind it?

The post apocalyptic (in a way) story is just a metaphor for the subject of human life, disease, craziness and ageing. I don't want to spoil the ending of this film, but there will be a good twist at the end ;)









The trailer can now be seen online and looks really interesting…the shot of the ark from the dockside looks a real complex scene, is it?

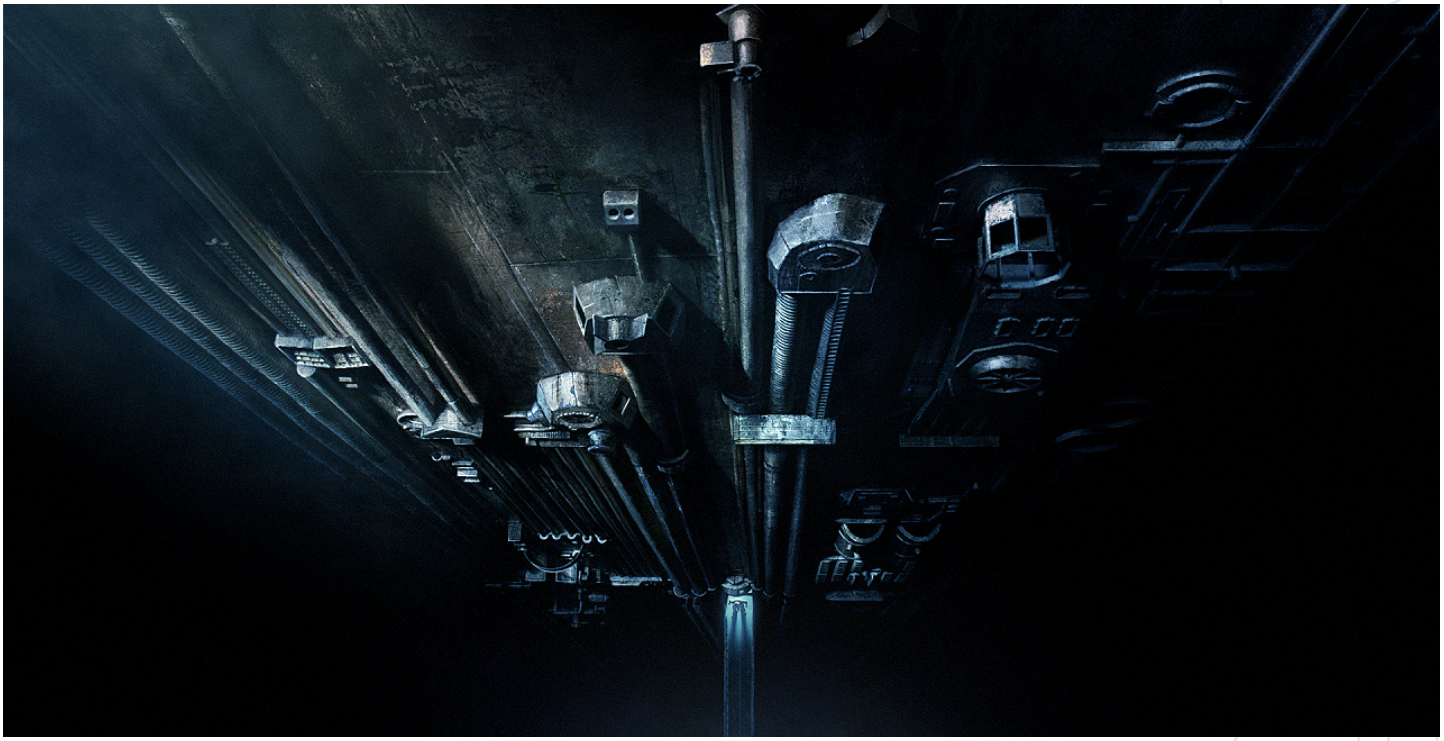
In fact its a matte painting based on some simple 3D renders. This shot was painted by Damian Bajowski, but it will be brought to life in a 2D composite.

The style is something worth noting too, I can see a tiny bit of 'Fallen Art' in there ;-) (compliment) is this because of the working flow you have used from previous projects?

Hm, well I don't see Fallen art style here myself, all the characters where finally designed by me, and they are completely different from what Rafal Wojutnik made for FA. The main character though is modelled by the same modeller that modelled some Fallen Art characters - Radek Nowakowski. Maybe that's why you see some resemblance. :)

And now you can work under the title of 'Writer & Director'! How does that feel?

I can work under the title of producer too ;)





Together with Marcin Kobylecki, we are making this film happen. Its not easy, especially working in different time zones, but its a challenge, and we are going to finish it that way. Working on your own story is definitely very rewarding.

Do you have a good piece of advice for artists in the same position as you?

Be patient, draw, paint, make photos and observe , always find good references.

Thanks again Greg. Its been good talking to you.

Grzesiek Jonkajtys

For more work by this artist please visit

www.3dluvr.com/jonkajtys/

or contact them at

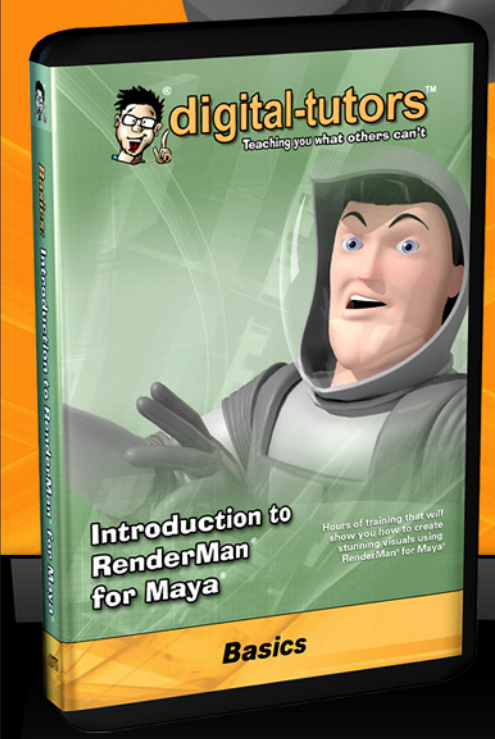
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Interviewed By : Ben Barnes

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ERICK MILLER



Erick Miller, Character Setup Supervisor at Sony Pictures Imageworks, has been a Maya® user since its inception at version 1.0. Currently, Erick is finishing the all-CG Sony Pictures® Animation feature, Surf's Up. Prior to Surf's Up, while at Imageworks, Erick did facial rigging for the all-CG feature, Monster House, and also built a muscle and skin system for the visual effects feature Ghost Rider®. The muscle and skin system is currently being used in other upcoming feature films, including the all-CG medieval fantasy/adventure epic, Beowulf, directed by the acclaimed Academy Award-winning director, Robert Zemeckis.

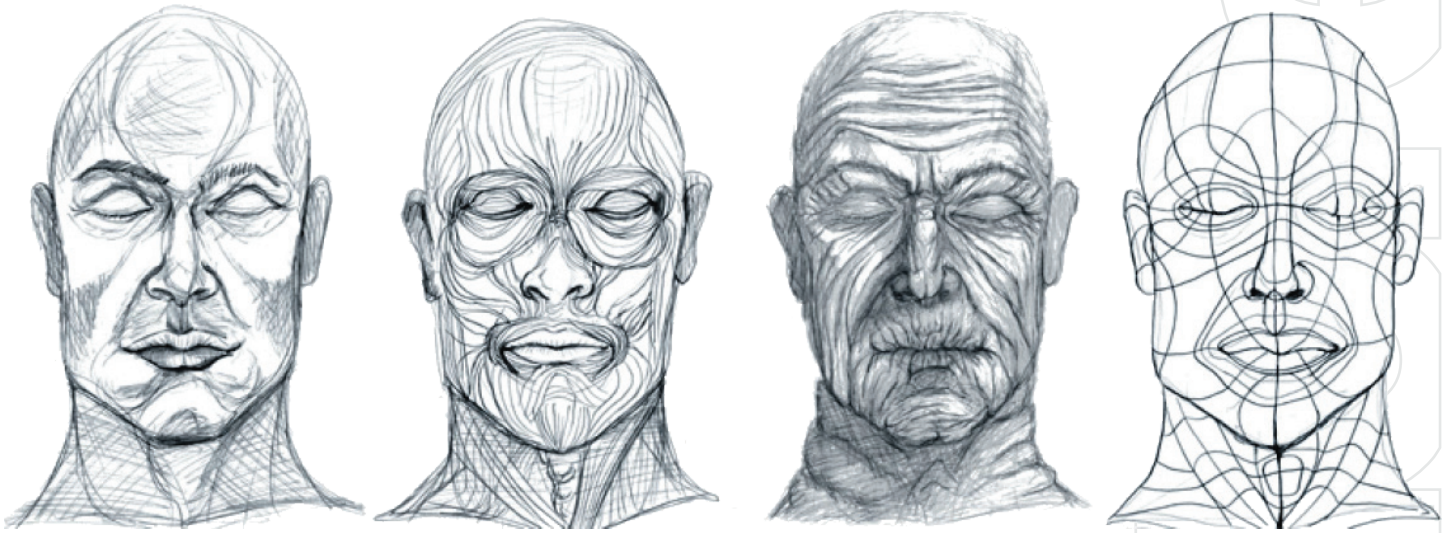


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Before Sony Pictures Imageworks®, Miller worked at Digital Domain® where he contributed to several ground breaking effects projects including a crowd animation and rendering system, and a plug-in pose space deformation system. He created the Maya crowd pipeline for The Day After Tomorrow and muscle based facial rigging for a photo-realistic Michael Jordan Superbowl commercial. He was also the Lead Character TD for a series of Disney 50th anniversary commercials, and with his team, created a full squash and stretch 3D cartoon character rigging pipeline. As a Lead Character TD for the feature film, I, Robot, Erick was responsible for the hero facial rigging of the fully CG, photo-realistic main character, "Sonny", in addition to much of the character based Maya pipeline, including the crowd system, and many scripts, plug-ins, and character based tools.



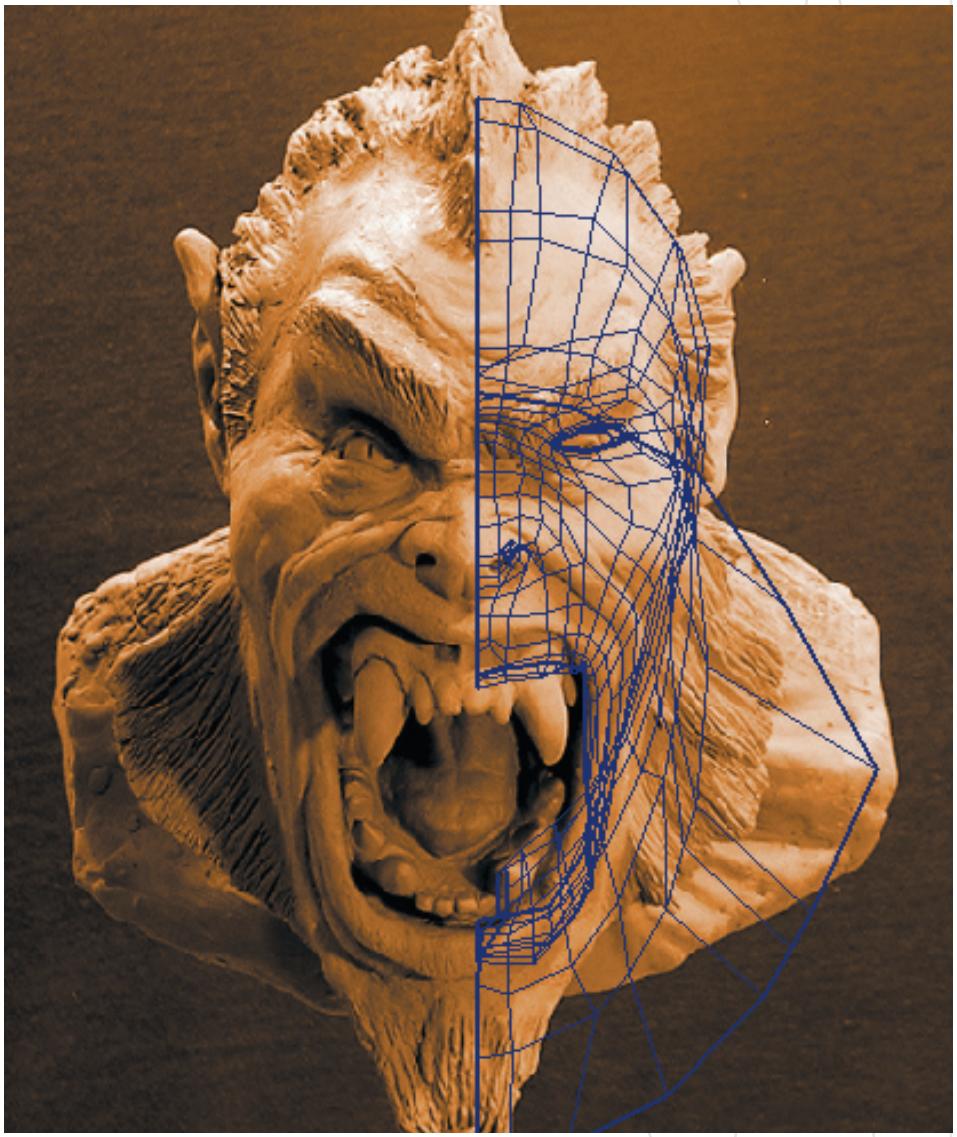




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Hi Erick, please explain to our readers the role of a Character Setup Supervisor?

Character Setup Supervisors are responsible for rigging characters so that they are capable of having animation controls that can be animated, and so that they deform in a realistic manner. We are responsible for the area of work that creates the character animation puppet rigs as well as the deformations of the final character's skin.



And what route led you to this particular position? How did it start for you?

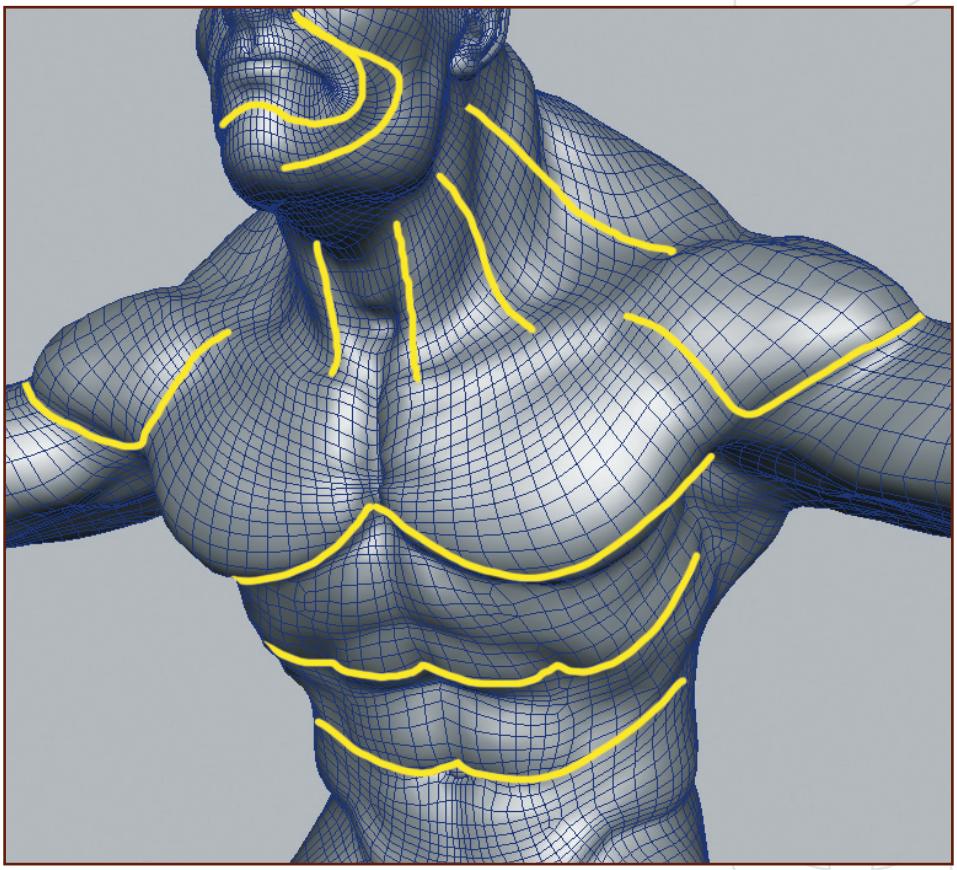
I started out just being incredibly interested in computer graphics! Actually my very first exposure to CG was in an OpenGL computer science course, which was the only place I could find to learn about it. I quickly realised that doing only 3D programming wasn't what I wanted, since I have always really loved to draw and to create. So, I packed up my bags and transferred to San Francisco. I finished college, and soon started working out there. Having a mix of creative and technical knowledge and interests, becoming a TD (Technical Director) was a natural progression.



Erick Miller an interview with

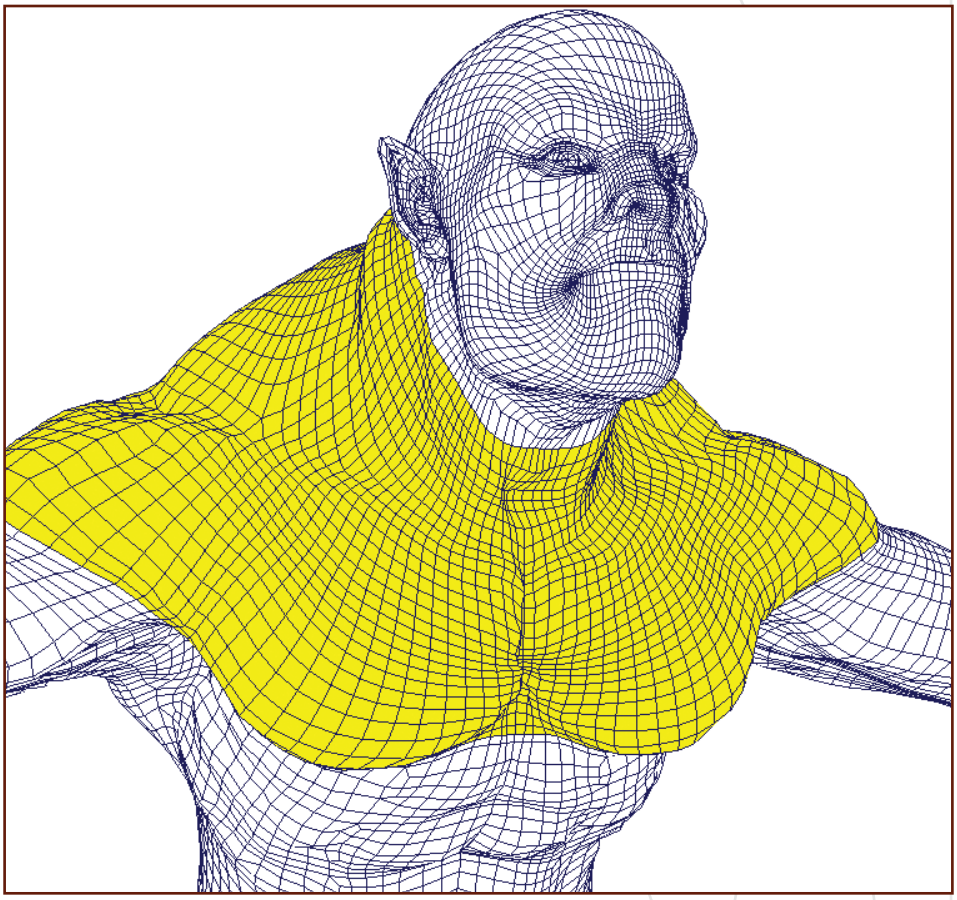
Looking at your CV you might well be the world's expert on Maya ;-) Was using Maya a choice you made or was it just the first 3D package you were put in front of?

Well, thanks. I don't know about being the world's expert, though! But actually the very first package I learned for a brief stint was Strata, then I started playing around in 3D Studio. I fumbled around with Power Animator when I could get access to it, and started picking up Softimage just as Maya was coming out. Then I quickly jumped to Maya right around the time I saw Chris Landreth's Bingo, which I thought was a great short film, and I've never turned back since then.



What projects have you worked on?

I am currently working on Spider-Man 3, and I just recently finished working on Monster House, Surf's Up! and Ghost Rider. A few of the other recent film projects I've worked on are I,Robot, Day After Tomorrow and Aeon Flux - I also worked on some pretty cool commercial spots, including the Gatorade/Jordan Superbowl spot as well some Disney 50th Anniversary spots.

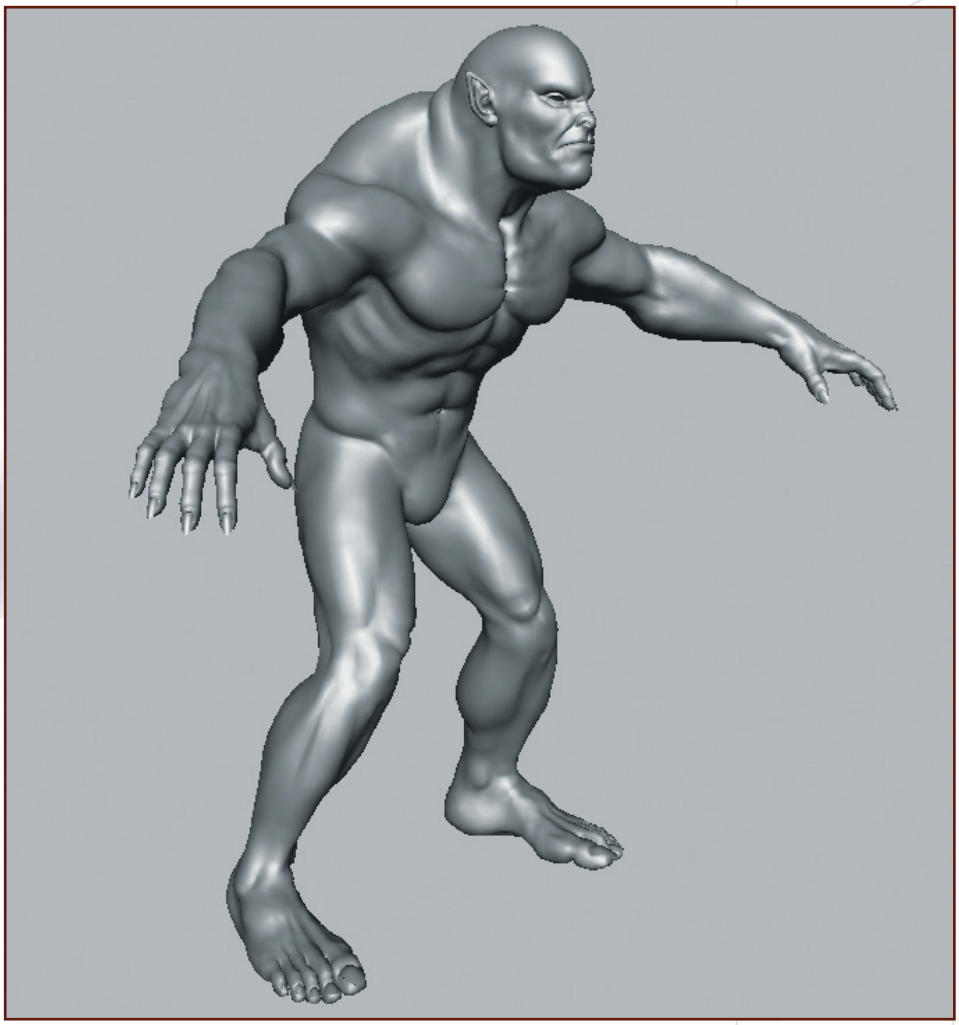


That's a nice list of credits! How do you feel about the larger movie franchises submersing themselves in CG?

I think that CG, as a whole is simply a film making tool, just like make-up, prosthetics, stage lights, cameras, etc. The main reason why CG is so adored by some of the biggest directors is because of the massive amounts of freedom that it allows! If it's something completely impossible to shoot in real life or with real actors, it still may be possible to have in the film, thanks to CG. . If the film is a franchise with the same characters from film to film, you can save lots of money by re-using your digital assets (such as digital sets and digital characters). The amount of power that is enabled by using computer graphics is defiantly the major part of it's appeal – but, to some of us, there's also a certain appeal in developing the



hottest new technology, and helping to break new ground in film making by enabling even further the amount of quality, realism and impact that a digital performance has when you see it on the big screen.



Which of these would you consider a 'highlight' of your career so far?

Probably, so far, I,Robot, since the project went really smoothly and turned out fairly successful. Although some of the projects I've currently been working on might be competing for that top spot pretty soon.

Go on! Plug the projects which you think are going to top 'I, Robot'… ;-)

Well, both Surf's Up! And Spider-Man 3 are definitely high in the top ranks, from what I've seen so far, both look great, and are very well done films. But, since they aren't out yet, I can't really go into any more detail – I think you'll just have to wait and see what I mean!

You have worked on many projects, for many companies, under many different job descriptions. Why is this?

Well, some could be because this is very much a project based industry. Projects come and go at different companies, and sometimes the people go with them. Another reason could be that different companies sometimes have different titles for the same job position. I've seen the job Character TD called so many different things, from Character Rigger to Technical Animator, or sometimes just Technical Director. If you are rigging characters, then, all these titles really mean the same thing.

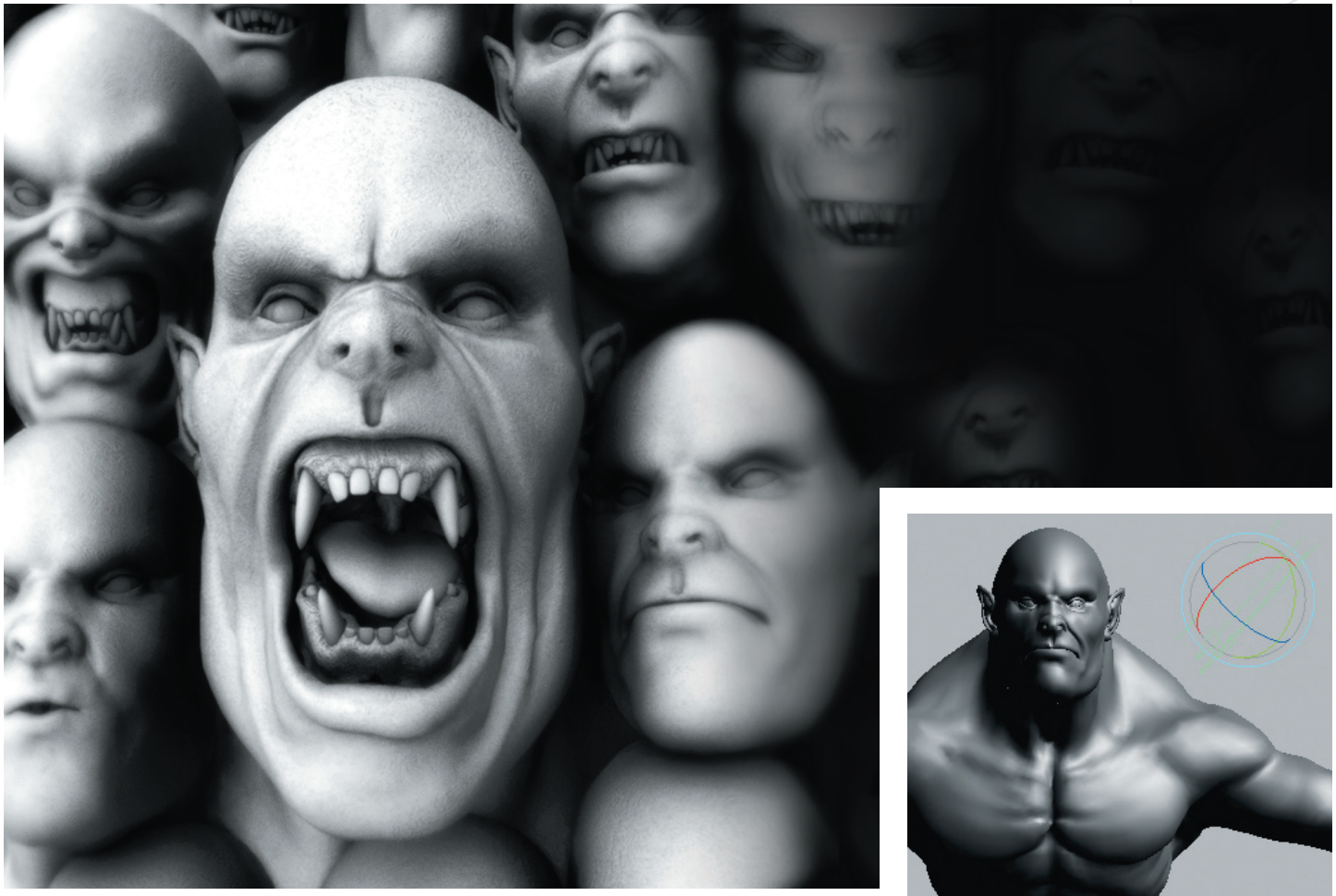
And how does it feel to add 'Author' to those job titles?

Being an author feels pretty rewarding. I enjoy writing because hopefully it helps other people discover things faster and ultimately makes their life easier. This will now be the third book I've published, and I have to say, I definitely think it is the best one yet.

Your new book, Hyper-realistic Creature Creation is a stunning in-depth look at the process. What can readers expect to learn from it?

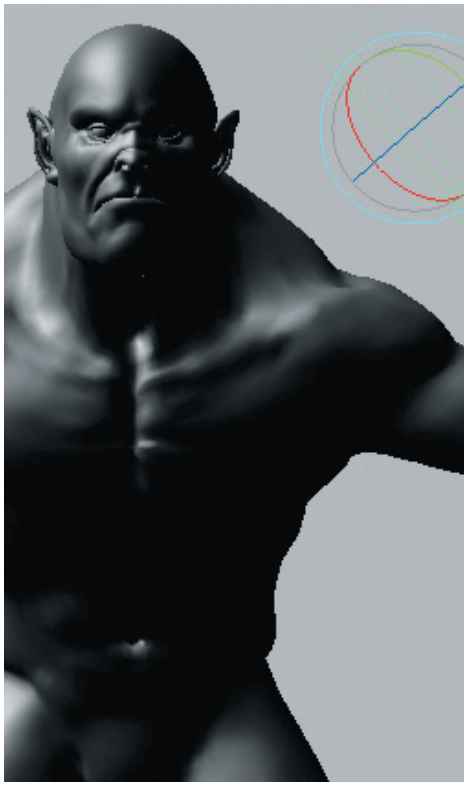
Thanks. The book covers multiple topics all with the goal of explaining how to create realistic digital creatures. Topics are modelling, UV creation, body rigging, facial rigging, and even some texturing and a little bit of rendering. The main goal is that the book should show someone a few of the most successful techniques that can be used to create a hyper-real digital character. It's also important for people to realise that the book is a written consolidation of the first 3 HyperReal DVDs that were put out by me, Jeff and Paul a couple of years ago.





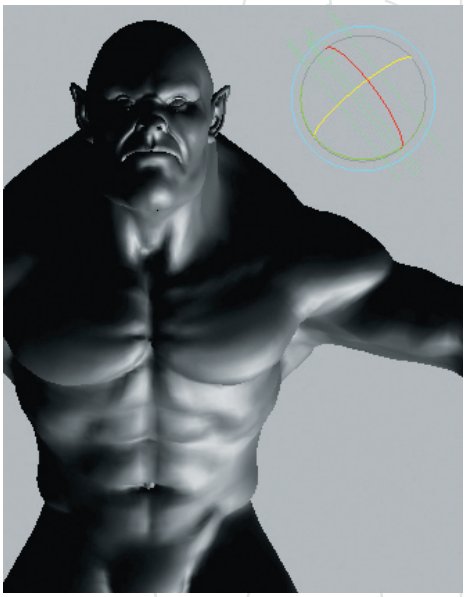
How would you sum up the phrase 'hyper-realistic'?

We define it in the class as: 1. Above or beyond the quality of convincing existence, to the point of fantastic disbelief. 2. Something imaginary or incredible portrayed in a vividly realistic and believable manner.



How much work goes into producing something of this quality?

A lot! We tried to put as much professional effort into creating the digital character that is featured in this book as we possibly could. And I think you will find that hopefully the quality of the content that is in the book reflects this.



Have you got a good piece of advice for our readers who might be interested in this particular area of the CG industry?

Never give up and just keep on going!





Erick Miller

You can get information regarding Erick's Book 'Hyper Realistic Creature Creation by clicking this link: Hyper Realistic

Interviewed By : Ben Barnes

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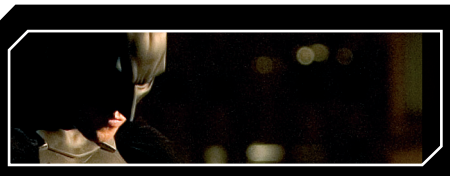
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BATMAN BEGINS

BY PIERFILIPPO SIENA & CAVALIERE OSCURO

It's May 1939: DC Comics, not casually the world's largest English language Publishing House in which productions will later include super-heroes such us Superman, Wonder Woman, Flash and Sandman, prepares an unexpected event. Thanks to the great artist Bob Kane, in the pages of Detective Comics ≠27, a figure makes his first exceptional appearance - destined to remain in the collective minds of all the world: Batman, the obscure-rider, the multi-millionaire Bruce Wayne.





The obscure-rider is a mysterious and tormented hero - "psychologically one of the most interesting figures in our cultural history", affirms Paul Levitz, president and editor of DC Comics - who utilises his anger towards his parents' murderers by declaring himself the defender of justice, of citizen order, by transferring his negative energy into "good" heroism, and able to feed off the "bad" that is present in himself. On the background of the skyline of Gotham City, his figure moves agile and fast… The 66 years of the character's history represent an unprecedented cultural phenomenon, including radio transmissions and television series, cartoons, interactive games, comic-strips, any kind of merchandising and, moreover, cinematographic films. After the two appreciable gothic style films, filmed by "minstrel dark" of Hollywood, Tim Burton ('Batman' of 1989 and 'Batman Returns' of 1992 starring Michael Keaton), followed the unmemorable and psychedelic films offered by Joel Schumacher ('Batman Forever' of 1995 starring Val Kilmer and 'Batman & Robin' of 1997 starring George Clooney). What English director Christopher Nolan (by whom psychological thrillers 'Memento' and 'Insomnia' have demonstrated his talented attention to characters' psychology and have established his secure production style) proposed to do in 2005, was to successfully relate Batman's unique history, never seen by the impassionate, with the exception of short flashbacks in Burton's films about how Bruce Wayne became Batman. 'Batman Begins,' a super-production on a budget of 150 million dollars, goes back to the obscure rider's origins in the guise of the good force in Gotham City. An incredible adventure that compares the typical complex characteristics of the human condition, with the difficult talent and technical means which are required to reach the tormenting, but eradicable, presence in each of us – our own frightening alter-egos. A definitive history about the origins of Batman does not exist but, rolling on the years, and through various explanations of the personage, important events appear to make it what it is – a legend. Filling in certain gaps about the legendary figure, Nolan presents his opinion, in an original manner, about the dualistic man/hero, by combining fears and



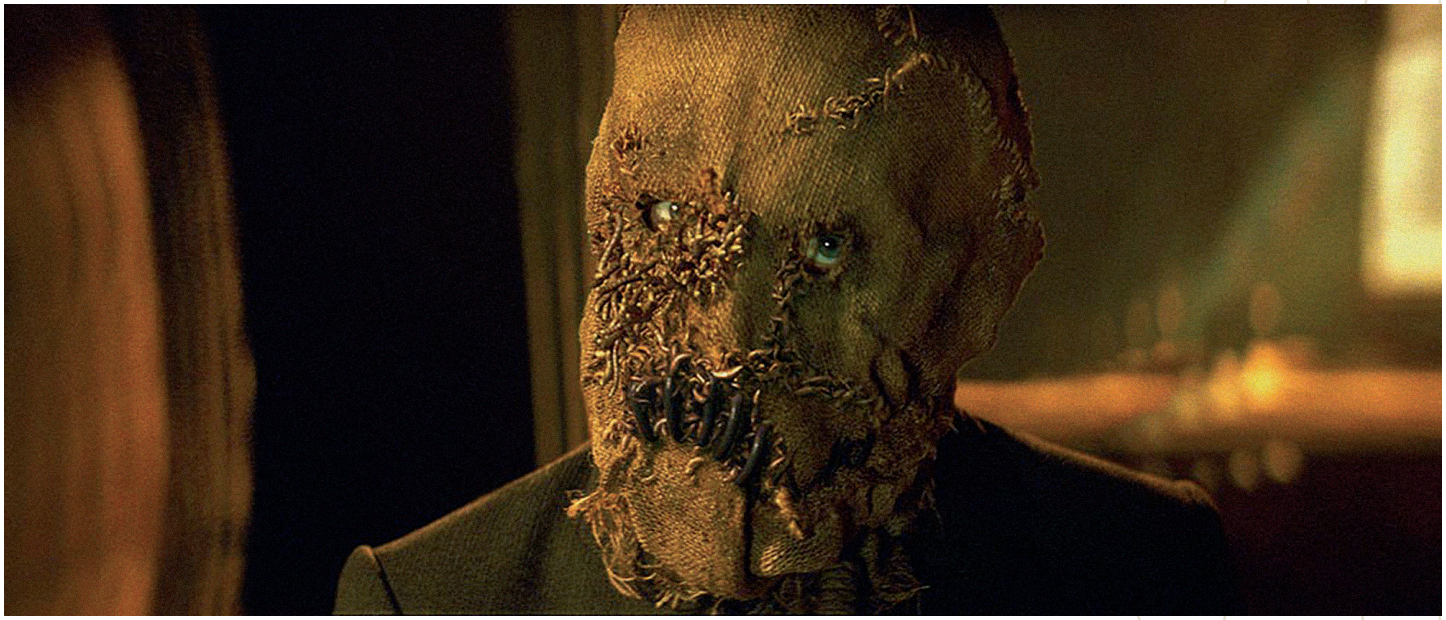


senses to transform them into a phsycological and physical strength. The real surprise came from the collective work for this ambitious project (if we remember, the director wanted to guarantee that his realistic approach was continued, in every aspect, from the concept design, to the stunt, to the visual effects). The magic that was missing from the last two movies, but is evident today, lies with the complete empathy that Nolan, with his collaborators, set up between the expression and the visual expertise given by the special effects and visual games with the complexities of the human soul of Bob Kane's creation. Filming started in the middle of March 2004 and by day 129 the realizers shot on location (Iceland, Chicago, London, the famous Shepperton Studios, an old hangar for airships at Cardington), in costume, with several CGI contributions. Production designer Nathan Crowley, admitted to prefer, where possible, the maximum contribution of the visual effects which produced hyper-realistic revivals, in the likes of the reconstructions of moving staircases. "The best way to do it is to realise the possibility in life", added co-supervisor of effects Dan Glass, with Janek Sirr). The first location: the glacier, Vatnajokull, to the South-East of Iceland, where the rocky terrain was the perfect result for the seasonal stages at Bhutan, where Bruce Wayne battled with Henri Ducard on the icy lake in the small village, and an enormous monastery entrance was reconstructed to scale and was subsequently extended using a miniature construction. It's essential now to thoroughly examine Gotham City's uncertainty, observing it through the eyes of the residents of the city – living in a city that is both familiar and dangerous at the same time, like a modern-day New York but more intense – a place where people are so troubled that they can't individually deal with the constraints of the city. In the real location set of Crowley, they were joined only in post-production with the digital effects of the miniature. Chicago, the "Windy-

City", was the reference for the set design and also helped furnish the outward parts so as to realise the scenes in the sunlight where the spectacular pursuit with the hero's car in the traffic, the Batmobile, takes place. The design of the Batmobile (in the producer's garage) was devised step-by-step, from the outlining stages written by Christopher Nolan personally, with David S. Goyer (author of the 'Blade' trilogy). In spite of the filmmaker's willingness to work in real ambient, 'Batman Begins' tallies 600 shots with digital effects and models, 300 of which were realized by 'Double Negative' in London, which were important in extending and completing Nolan's vision of the watched-over metropolis by the obscure-rider. Whereas the 'Moving Picture Company' (MPC) took in hand the swarms of bats in CGI that often accompany Batman's appearances, the French 'BUF' Company gave form to the nightmares casued by the Scarecrow's mask, or Doctor Jonathan Crane (Cillian Murphy), whilst the 'Rising Sun Pictures' and the 'Senate Visual Effects' completed the rest of the film effects. With regards to the disturbance in Gotham City, it was insisted by supervisor Paul J. Franklin of 'Double Negative', that a total and convincing photorealistic surrender of the digital city was created. So, Franklin, and four members of staff,







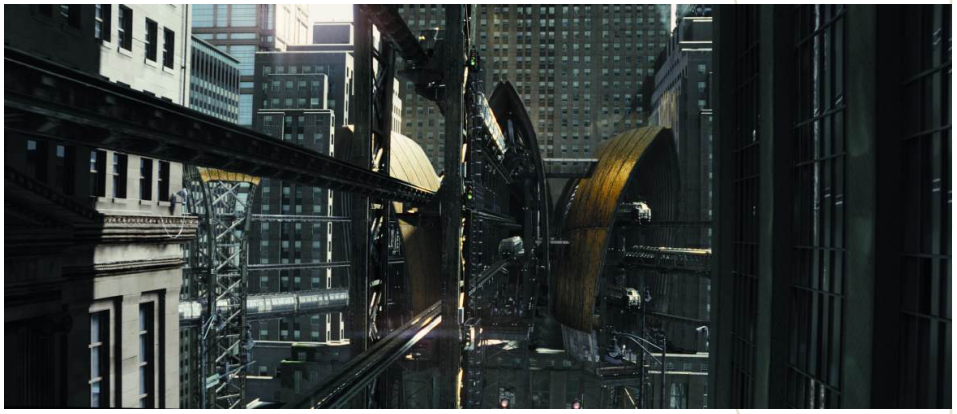


went on Spepperton's set to study in detail the type of lighting wanted by the director of photography Wally Pfister, for 'Batman Begins'. Differing greatly to actual films, he didn't want to to be based on the support of digital medium, but he would instead create the film's atmosphere in the old way; restricting all the technicians and artists to collaborate to adapt the visual look as far as possible. By the beginning, excluding the hypothesis to realise a miniature of Gotham City for the repeat aerial action, the dimensions of which would have

reached Soho, in London, Double Negative used digital cameras to take high resolution pictures. From these they were able to generate textured 3D models of the buildings, which were essential to increase the Chicago stage set and locations. To completely understand the work executed by the London studio, we can take for example the monorail sequence of Gotham City that, covering the suspended line thanks to pillars inspired by the design of Sydney's Opera House, rides through the river, in the middle of which there is Narrows Island, haunted by the lower class citizens of the big metropolis. The motor-vehicles and wagons reflect the constructive style of the American convoys 'Amtrak' of the 1950s but, particular details were paid more attention because Franklin stayed in Chicago for four weeks taking pictures of the trains' movements, to understand how direct sunlight was reflected by their metallic surfaces and to study railway mechanisms. Although a miniature was used for the spectacular uprooting of the convoy at the end of the film, for the rest of the shots dedicated to the train in motion a digital model 3D was applied. A miniature ½ scale model of Narrows Island was created, embellished with CGI layers to capture the light from the windows better, and Double Negative composed a new tool, to sufficiently act in the 3D space. Adding in the digital Gotham river, the support of the super elevation, the rails and the carriages became more precious by two passages of rendering dedicated by the illumination, one for the exterior and one for the interior. The rest of the elements used in the skyline of Gotham City's buildings were realized in CGI, based upon the material collected in Chicago and by utilising another tool set by Double Negative for the HDR images. With Windowbox, Double Negative was able to realise the interior of the buildings seen from beyond the windows, contrasting the "warm" lights of the city dwellings with the "cold" lights emitted from the tungsten-lit offices, thanks to this tool's ability to generate 3D









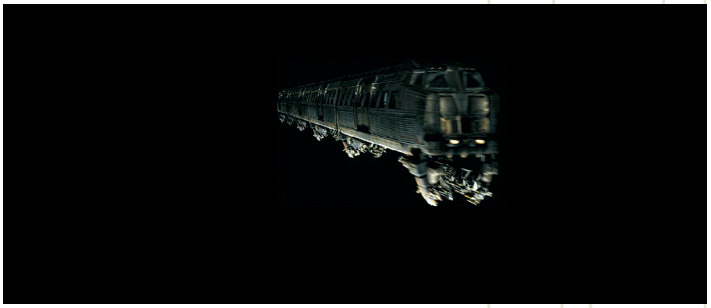












geometries, starting from the homes and offices. In Batman Begins, there are also several effects present where miniature models were retaken on the "green-screen", for example in the monastery in Bhutan scene, or during the flight at full speed where the Batmobile is pursued by police cars on the streets, in the car-park and on the roofs of Gotham City. It was necessary to complete these scenes, or sequences, by adding 3D digital atmospheres with buildings, skyscrapers, occupied streets and animated objects, like fallen and moved roof tiles from the passage of the heavy vehicle conducted by Batman. Data delivered by LIDAR was used for the set constructed in England and for a couple of locations in Chicago. 120 artists from the studio in London worked for around 19 months, assisted by Alias' Maya, Pixar's RenderMan, Apple's Shake and 2d3's Boujou. The software was particularly useful for the camera-tracking of the markers positioned on location around the monastery entrance (scale 1/1), with the intention to insert a miniature composition of the monastery (built in scale 1/24 by Cutting Edge), and photographed in front of the green-screen and refined with the snowstorm elements in CGI. The producer, Christopher Nolan, declared






to be directly conflicting with the majority of the digital effects in the film, but he recognized the high level of realism reached by Double Negative in Chicago, of which, with the purpose to avoid making stunts more dangerous, they also succeeded in creating a virtual stuntman for Batman – the indistinguishable Christian Bale in costume. In fact, the British actor's body has been scanned and photographed with the least possible detail to model a double in CGI, the cloak of which, according to Nolan's wishes,







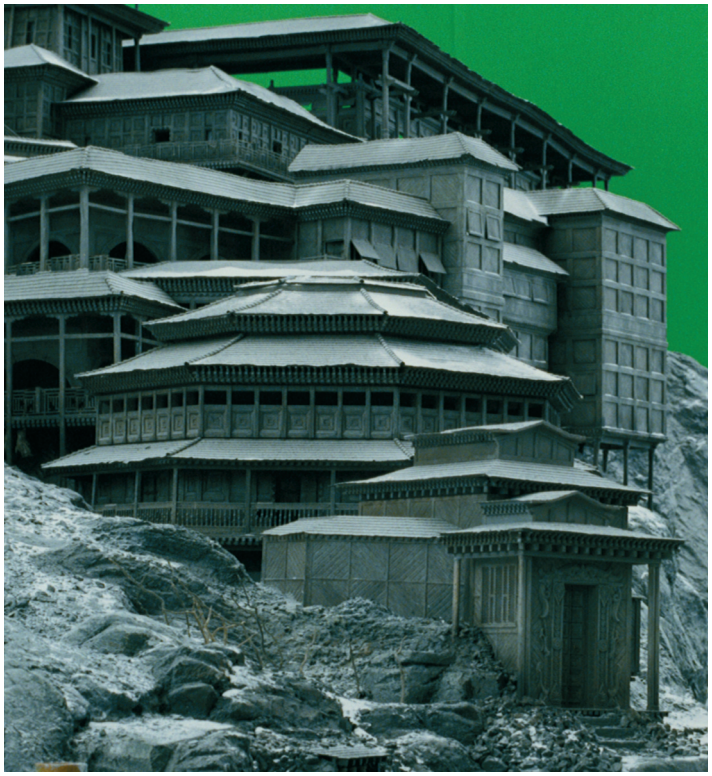


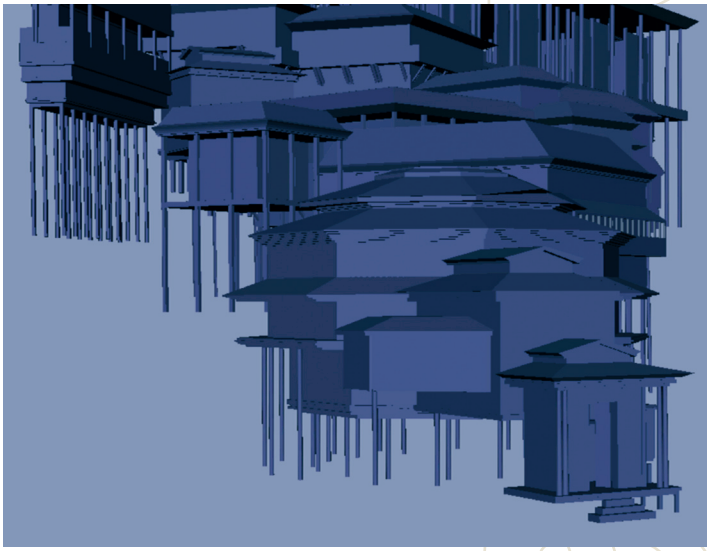
should be transformed from a simple top-coat in to a large flying wing, able to glide the hero to the ground. The artists of the Double Negative received, in Neoprene, a complete pattern-book of templates used by the tailor's workshop for the real custome and, from that, they used the known simulator SyFlex to generate the cloak in bat form. The virtual Batman has been animated frame by frame, observing the real actions of the stuntmen. A specific shader, written in the language MEL of Maya, and called 'Bi-directional Reflectance Distribution Function', simulated the luminous reflections of the light on the cloak, hood and body-suit. To generate the digital bats around Batman's character, the Moving Picture Company, of London, used its own software for the simulation of the deranged ALICE, developed for the colossal epic 'Troy' and for 'Alien vs. Predator'. The artificial intelligence of ALICE, operating in Alias' Maya, simulates the brain of each bat "agent" with a network creation of nodal interconnections, in which every node is a sensor or a rule. The



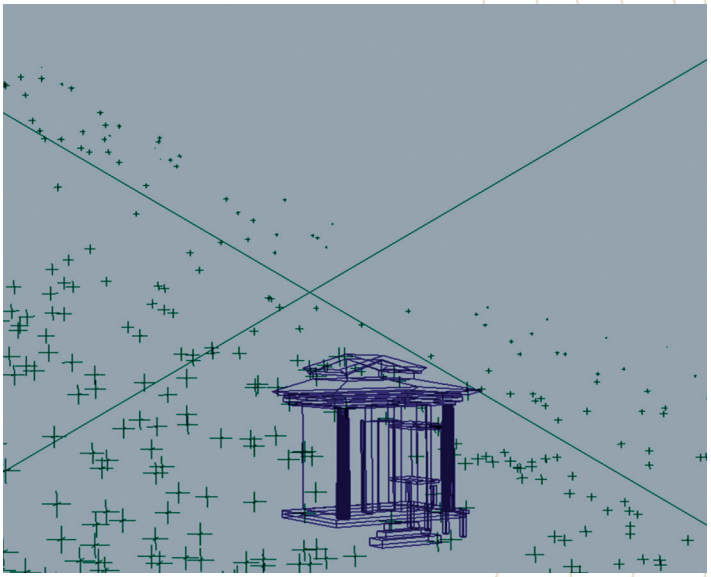








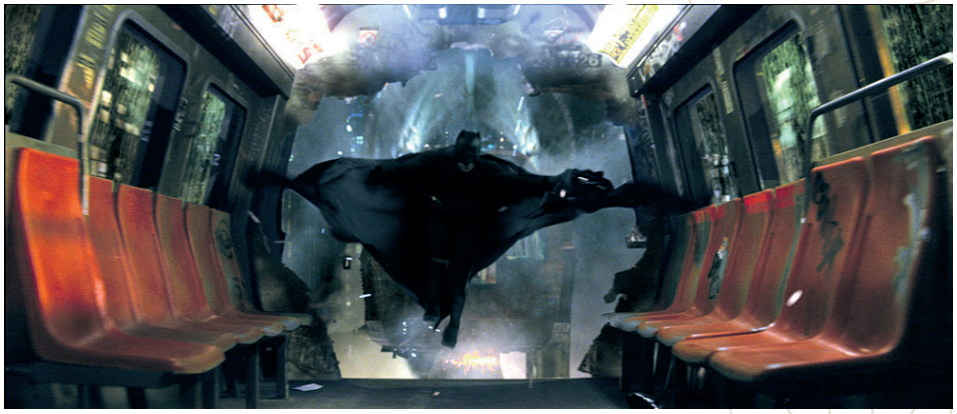






sensors allow each agent to move in formations about the area around them, amongst other agents and around obstacles along the routes taken. The sensors can be audiovisual but they understand any kind of function inserted in to the code, and when the desired ones are activated, it is possible to establish rules based upon their actions. If it is not requested that all the agents fly, they create a rule that enforces the displacement of the agents, until they are at a certain distance whereby the proximity lowers to a specific value. When all the general movements of the digital crowd are established, the next step is the management of the relative data so that every digital character possesses a complete array of abilities. This software's function, that generates the digital crowds, is named MLE (Motion Library Editor) or EMILY, and it works under a unique and innovate criterion, successfully inserted by MPC. The essential idea consists of taking an arbitrary volume of data based upon the movements that EMILY subdivides, then in brief, animated clips, with the maximum duration of 8 or 12 frames for each one, when thousands of them have been acquired, EMILY compares them with the position of the skeletal structure of the bats to animate them. EMILY then decides which of them can be employed to create a logical movement and belong to the anticipated event. Alice's system, I.A, defines the various agents' travel, for example, from point A to B until C are operated by the Motion Library Editor, EMILY, which decides what clips can work correctly so as to join them in sequence to create the animation of the "agents". If a digital bat has to turn to the right, the Motion Library Editor loads a clip able to satisfy this requirement. Clearly, when a vast archive of data is prepared, the realism of the simulation improves.
Christopher Nolan, author with a capital 'A', firstly desired Batman to be based upon the character's psychology and not on an admiration for digital effects. Both dubious and sceptic about the flawless miscellany between live-













action, location, painted scenes (constructed as both theatre-set and by CGI contributions), Nolan feared potentially missing the realism of Batman's digital stuntman. He has since had to change his mind at the point when 'Batman Begins' became a universal success, raking in 372 million dollars, which is without even considering the DVD collections which have just been released, ending with an elaborated and credible digital effect, as desired by Nolan himself.

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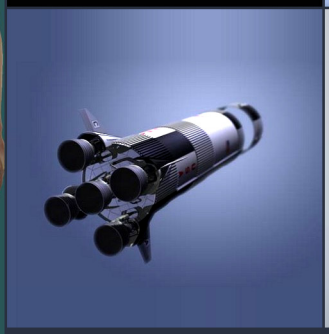
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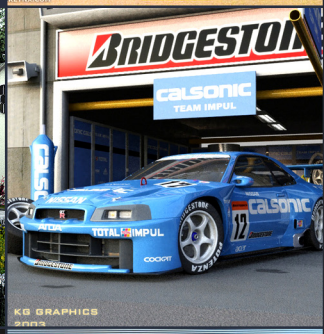



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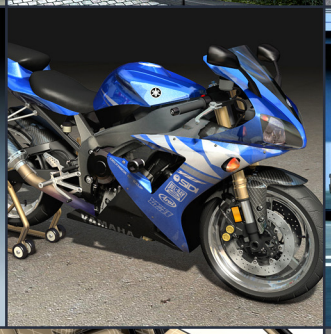
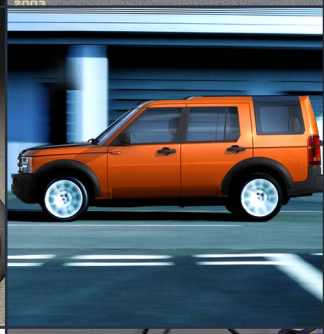
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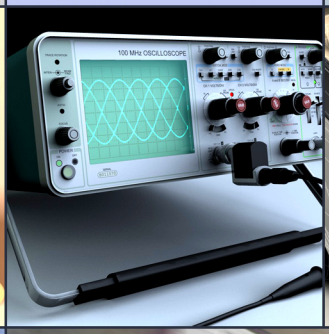




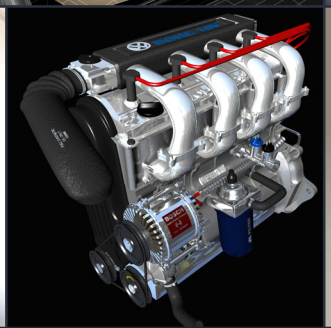










the Science of Colour

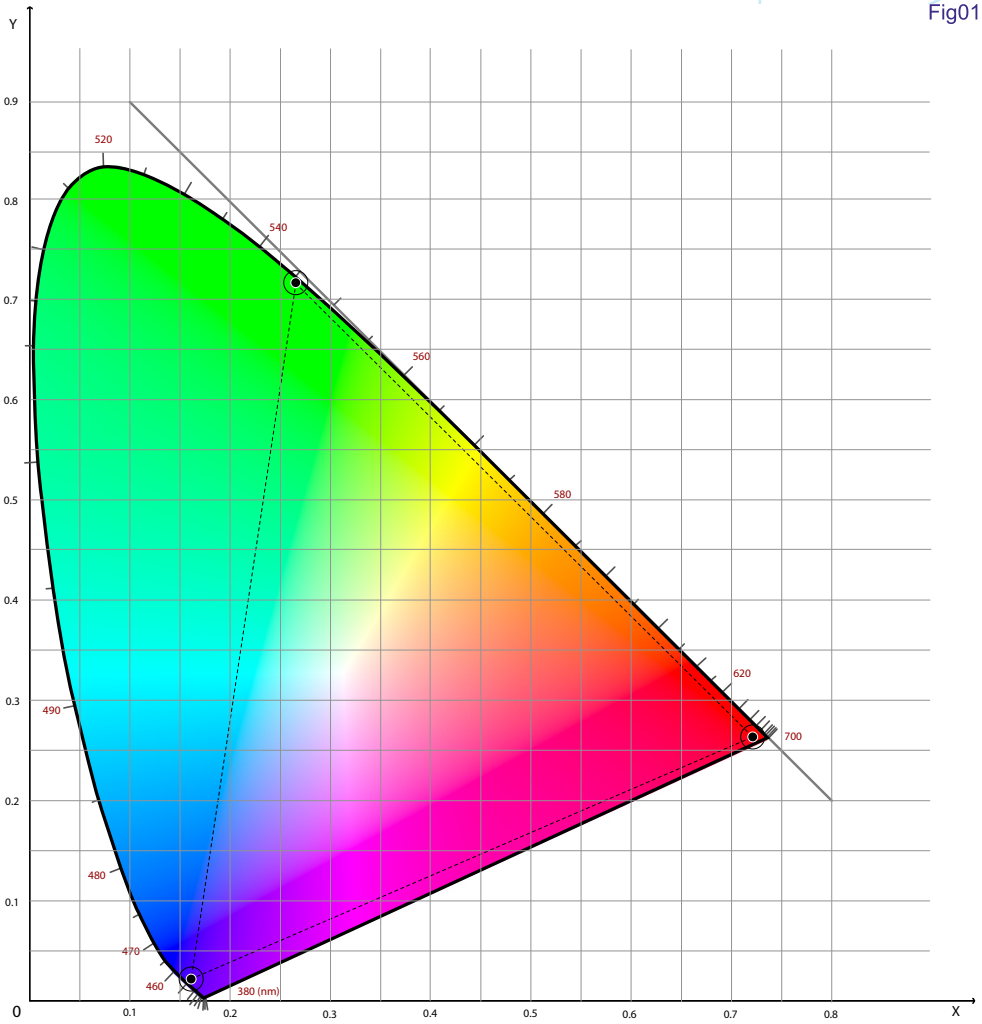
Color Reproduction in the World of the Pixel.

Mathematical colour models. Although, computer has been advanced significantly over the years, it still does not understand what colour is if users do not tell them. Thus, in order to communicate and reproduce colour, we need to objectively describe colour in some kind of precise mathematical models.

Mathematical colour models

The human eyes have blue, green and red receptors for short (S), middle (M) and long (L) wavelengths. Therefore, to be able to represent the sensation of colour, we must have 3 associated parameters. In 1931, a body of colour scientists known as the' Commission Internationale de l' Eclairage', or CIE, produced a mathematical colour model, called CIE XYZ. In this pioneering model, X and Z correspond to the eyes' red and blue stimulus respectively, while Y corresponds to the green stimulus and the perception of lightness. Fig01 shows the CIE 1931 colour space chromaticity diagram. The outer curved portion is the spectral (or monochromatic) locus, with wavelengths shown in nanometers. Note that the colours depicted depend on the colour space of the device on which you are viewing the image, and therefore may not be a strictly accurate representation of the colour at a particular position. CIE LAB (Fig02) is an improved version of CIE XYZ. CIE LAB comprises of 3 channels - lightness, A and B. Lightness represents the lightness from black to white (0 to 100), while A and B represents hues between green and red, yellow and blue respectively. Because it is based on true human perception, LAB maps a greater colour space than RGB and CMYK, which allows better colour manipulations. Although it is limited in making monitor-to-print comparison and covering some perceptual phenomenon like colour constancy, LAB makes our job of managing RGB and CMYK colour from device to device a lot easier.

Fig01



Colorants

Colorants are elemental things that create colours or cause changes in colour. On a monitor, colorants are phosphors. In a printer, they are dyes, inks and toners. The range of colours a device can reproduce depends on the level of precision in colours of the colorants or 'colour gamut'.

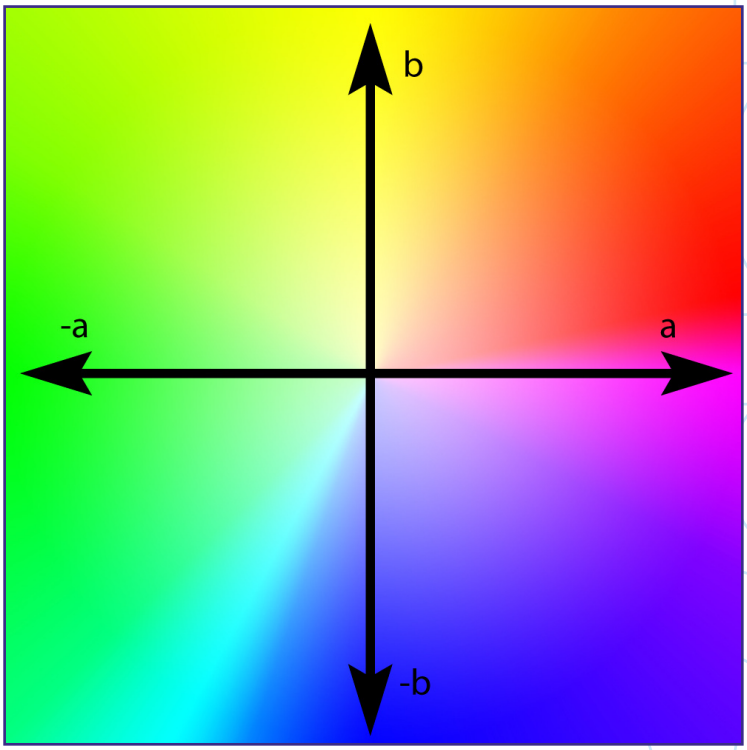


Fig02

RGB COLOUR MODEL

Fig03 shows the RGB model which has 3 channels that describe colour by mixing the amount of red, green and blue colours of each (See Additive colour mixing in part 1 of the series, Issue 11). The number of each channel varies and results in white and black when all of them reach the highest and lowest values respectively. Electronic devices like television use this model to stimulate the colour space that the 3 cone receptors perceive. Therefore, it is able to reproduce a wide range of human colour perception. However, apart from how many colorants to use, RGB does not specify anything about the actual colours a device should use to produce on a particular job (Fig04).

BITS PER PIXEL - BITS DEPTH

Bit depth refers to the quantity of unique colours in terms of bits that is possibly specified in an image's colour palette. The higher bit depths an image can encode, the more shades of colour can be produced due to greater combination of 0's and 1's (Fig05).

NUMERIC PRESENTATION

8-BIT/ 24-BIT COLOUR - TRUECOLOUR

This is the most popular representation since it encodes colour based on human capabilities. For RGB images, 8 bits per channel will give us 24 bits in total. So, with 256 shades of hue in each of 3 channels, we can have 16.8 millions colours storing in 3 bytes.

16-BIT/ 48-BIT COLOUR - HIGHCOLOUR

16 bits, known as High Colour or Thousands of colours, method is used to store each pixel in every two bytes. It allows extra bits in the green channel to meet the human eyes' highest sensitivity for green shades among the other two. Sometimes, red and blue have extra bits in some system to enhance colour depth on

Fig03

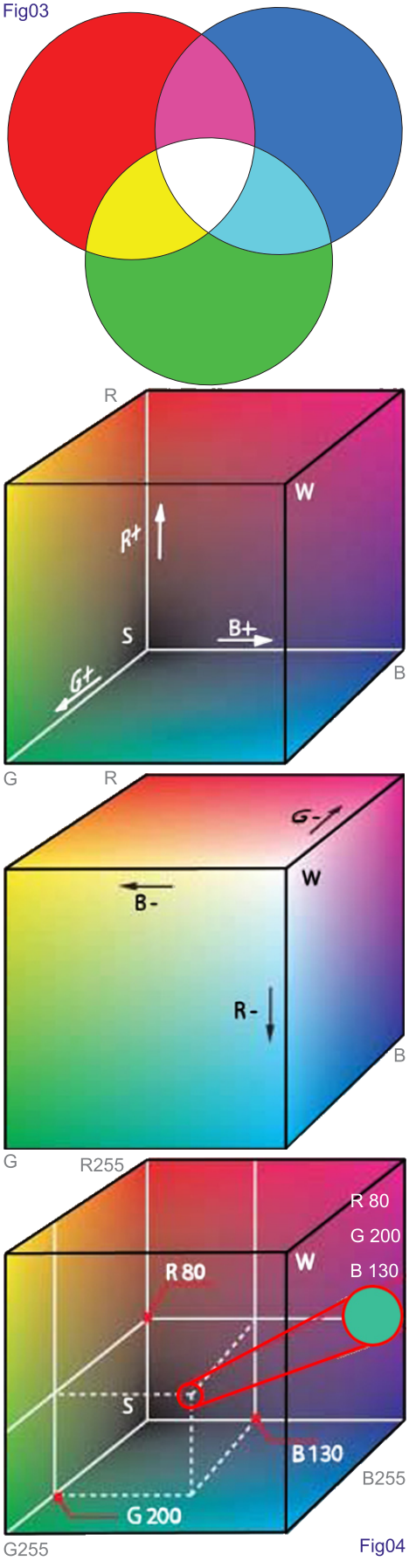
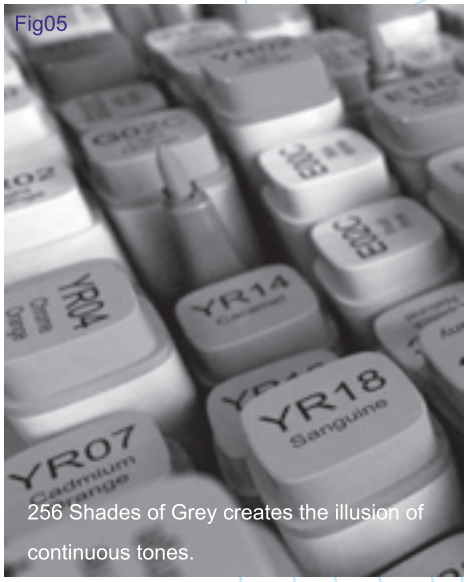


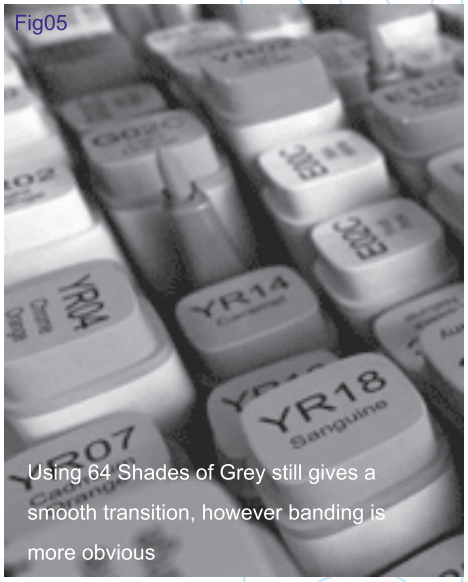
Fig04

Fig05



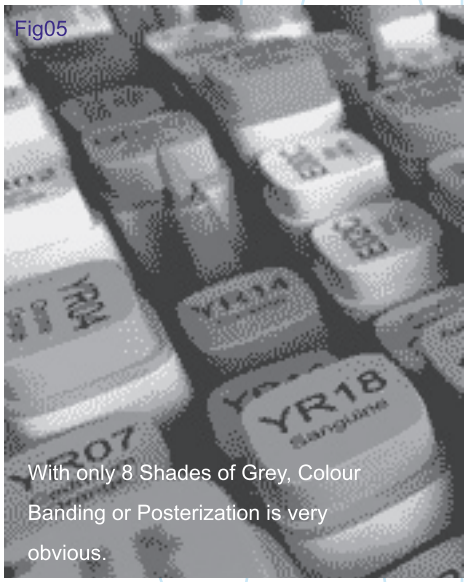
256 Shades of Grey creates the illusion of continuous tones.

Fig05



Using 64 Shades of Grey still gives a smooth transition, however banding is more obvious

Fig05



With only 8 Shades of Grey, Colour Banding or Posterization is very obvious.

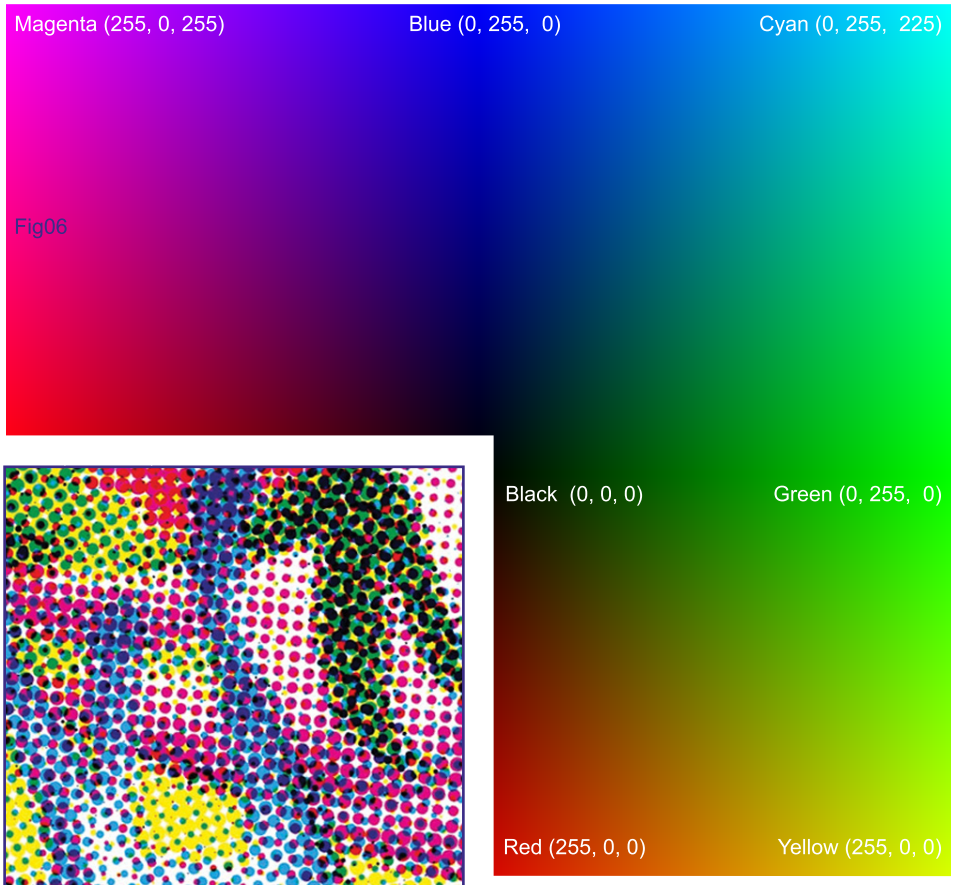
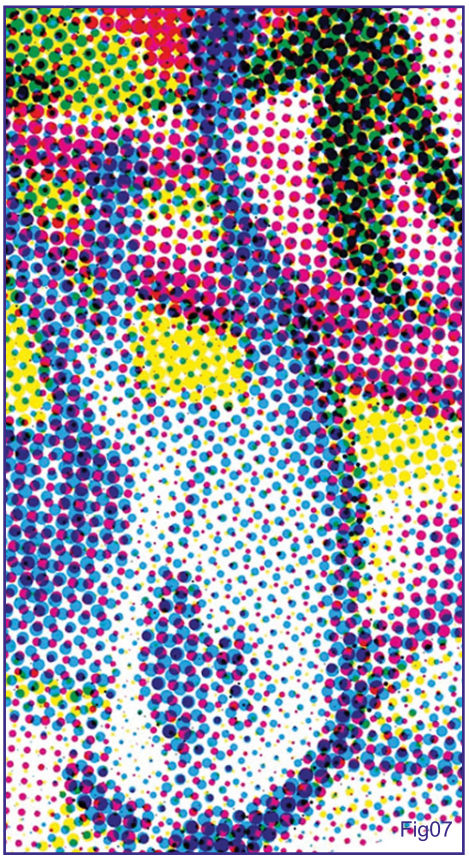


Fig06

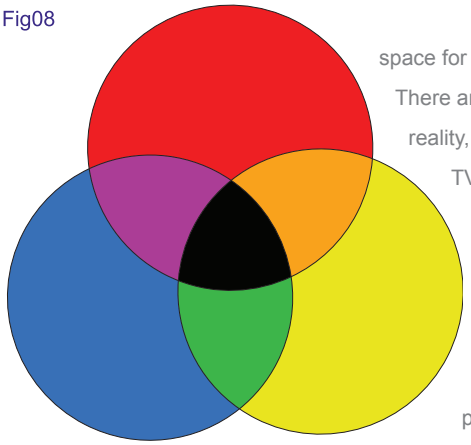

Fig07

photographs of skies or skin tones. Simply converting an 8 bit image to 16 bit image will not give you extra bits. Indeed, you have to work on an original 16-bit image to take the full advantage.

32-bit colour

You may come up with 4,294,967,296 as the number of distinct colours that 32-bit mode produces. However, it is a common misconception because the additional 8 bits are either used as an alpha channel or as empty space for greater optimization and quality preservation. There are millions of numeric encoding colours but, in reality, the number of colours which devices such as TV's, computer monitors or scanners are capable to reproduce is far less. So, keep in mind the difference.

Fig08

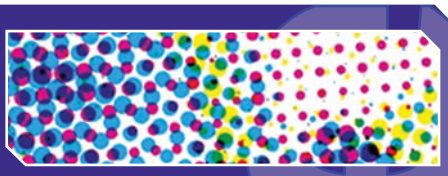


Dither

In computer graphics, Dithering is a technique to produce the illusion of tonal continuity of colour in images with a limited colour palette. It works by arranging equally-sized dots within the available palette in a way that is not so obvious to the eyes. Dithering comes as a handy tool when we face the task of reducing a file size by reducing its colour depth. It helps eliminating colour banding or posterisation in resulting images. In 1975, Robert W. Floyd and Louis Steinberg invented an algorithms to perform dithering, called Floyd-Steinberg dithering (Fig06), which is still reliable in the modern days. This is because of the algorithm's ability to produce images that emulate the quality of the original at a minimal level of artifacts. Other commonly-used dithering techniques are Albie dithering for optimized visual performance on interlaced monitors and Ordered dithering - similar to the old days' halftones - for printing newspaper by employing a method of creating a cross hatch pattern.

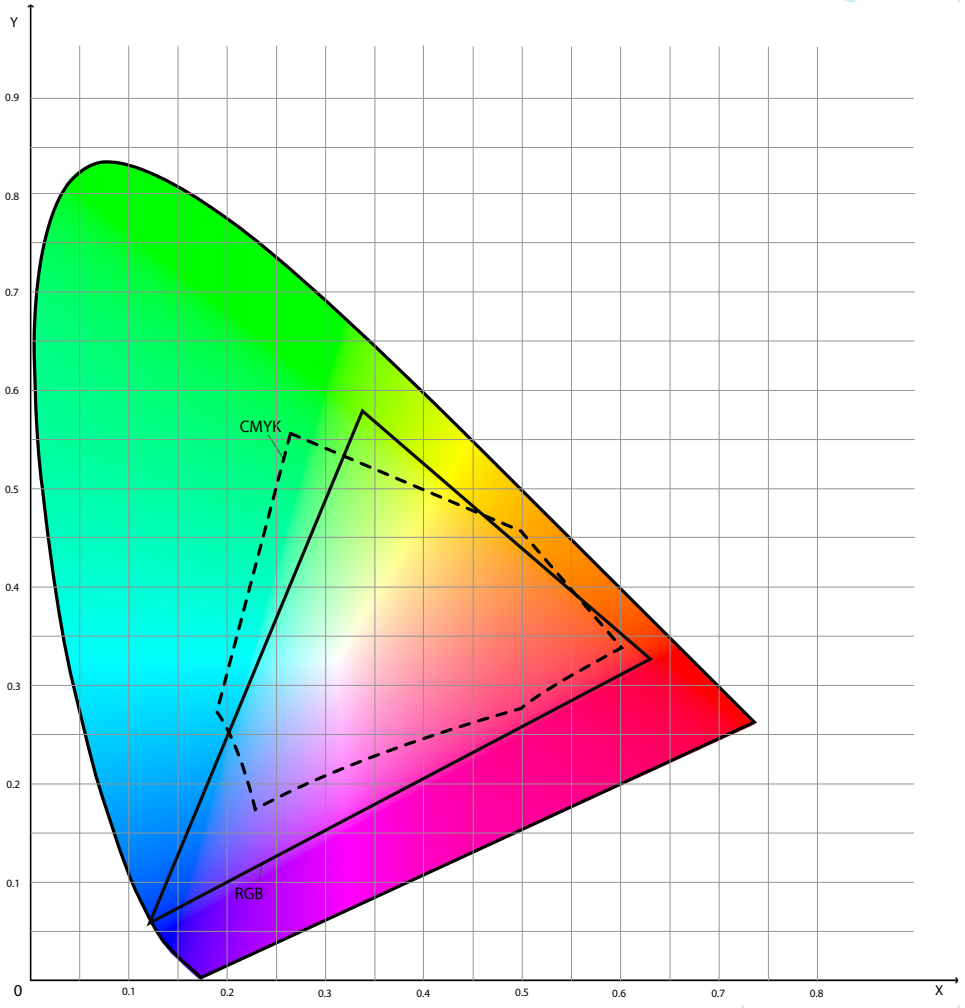
CMYK colour model for colour printing (Fig07)

The CMYK (Cyan, Magenta, Yellow & Black) model is based on subtractive colour mixing which has 3 colour components: Cyan, Yellow and Magenta (See Subtractive Colour Mixing in part 1 of the series, Issue 11). The fourth, black (K or key plate) is added for several reasons. In theory, the mixture of C, M and Y should produce pure black but they do not indeed and make the paper rather wet which is problematic in high speed printing and on low quality paper. Using black also helps printing fine elements such as text and vector-based graphics. On the production cost side, black reduces the amount of dollars trying to reproduce the same quality the mixing of CMY has. Although CMYK has 4 channels, it does not have 4.3 billion encoded colours. This is because not only does not 4th components produce many more colours, but also a lot of CMYK colours reproduce the same colour such as 60C, 60M, 60Y, 0K and 0C, 0M, 0Y, 60K (the same shade of grey) (Fig08)
In the analog days' conventional CMYK halftone,



because the spacing from the center of one dot to the adjacent is fixed, the printers have to vary their size to create the illusion of different tonal values. Today's technology lets us produce equally-sized dots and illusion of continuous tonal values by varying their spacing. In reality, colour quality shifts depending on types of printer and paper and is unlikely to be reproduced the same quality on identical printing devices. RGB and CMYK are often called device-specific models because the colours we reproduce using these two varies from device to device. This leads to problems such as failing to get the colour consistency across devices and to produce the desired colours. Therefore, it is essential that we have an absolute colour model like CIELAB so that we can make the process of precise colour reproduction from RGB and CMYK-based images possible. Another important fact to keep in mind that RGB colour gamut is larger than the gamut of CMYK print, but it does not cover some areas of the CMYK print. This leads to mismatching and impossibility to produce all colours that both colour spaces contain. (Fig09)

Fig09



HSV/ HSB and HSL colour model

HSV and HSL are often diagramed in the form of a circular hue chooser and flat area like a triangle where users can choose saturation and value/brightness for the chosen hue. However, some graphic applications do it via linear sliders or numeric fields such as Photoshop or Illustrator. (Fig10 & Fig11)

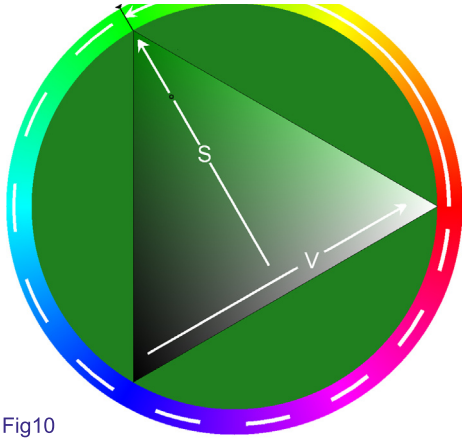


Fig10

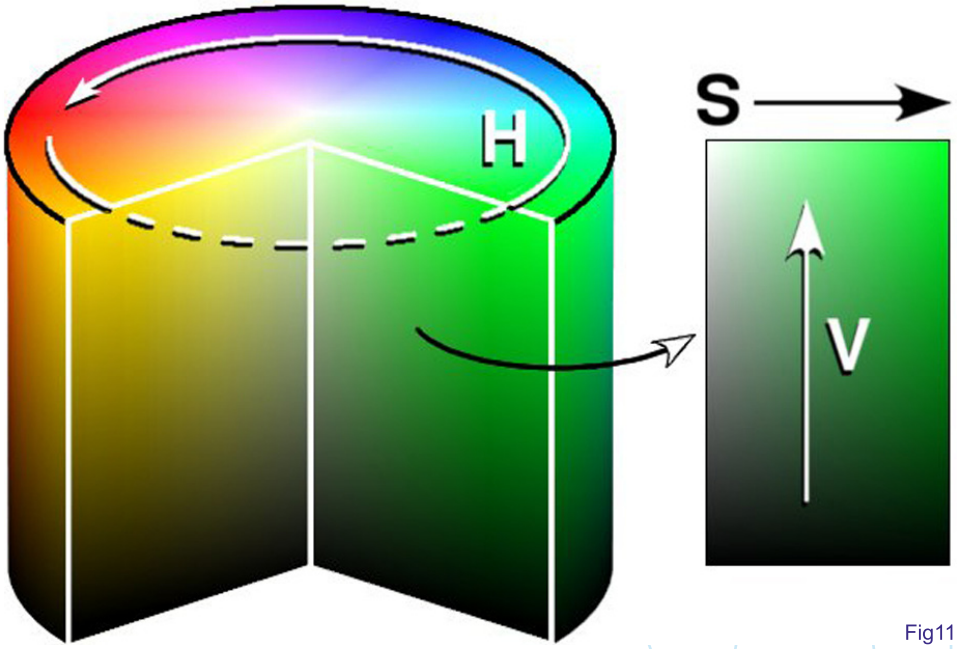


Fig11

HSV/HSB

The HSV (Hue, Saturation and Value) or HSB (Hue, Saturation and Brightness) by Alvy Ray Smith in 1978 is model a colour space which is a nonlinear transformation of the RGB and is based on three components:

1. Hue - saturated colour like pure red or yellow.
2. Saturation - the purity of colour. The lowest saturation of a colour is a monochrome and the highest saturation of a colour shows the ultimate purity of that colour.
3. Value/Brightness - the brightness of the colour ranges from 0 to 100% which corresponds to complete black-out to the selected hue.

This colour model could be presented - even though not 100% perfect - as cylinder where the hues evenly distribute along the outer edge with saturation range with distance from the center. Value varies from bottom to top. HSV/HSB is said to be artists' preferred model because it has similarities to human's perception of colour, and help artists to find the right colour palette.

HSL

The HSL (Hue, Saturation and Lightness) model is similar to HSV but somewhat better than HSV in terms of describing saturation and lightness independently. In HSL, the saturation component ranges from 100% saturated colour to the equivalent grey. Lightness component ranges from pure black to chosen hue to pure white.

Colour reproduction on electronic devices

In order to explore the secret of how electronic devices display colour, we need to look at a very important substance - phosphor. Phosphors are chemical and mineral compounds that are typically made of a host material such as Aluminium, Cadmium or Silicon. To display colour on a monitor, phosphors need to be excited by streams of electrons. Colour monitors have 3 different phosphor coated on the backside of the glass surface that emit R, G and B light. In order to mix and produce different colours, phosphors have to emit more or less R, G and B light under different strengths of electron beams. However, the quality and level of precision of colour they produces are greatly influenced by the characteristics of monitors such as their age and types of phosphors used, and on-site magnetic field. For example, the same, identical TVs you see in a TV shop that shows the same channel are unlikely to produce the same colour quality. (Fig12)

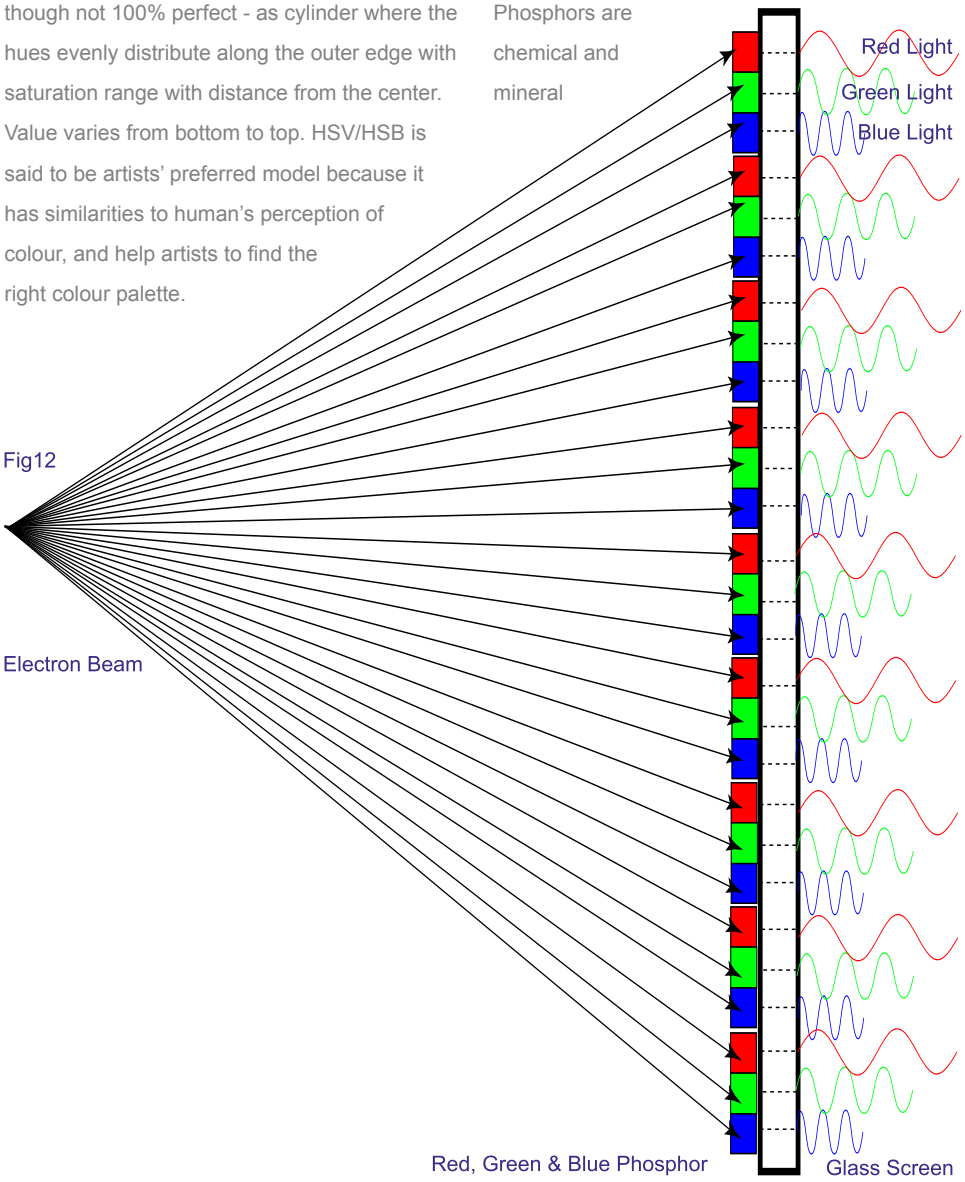


Fig12

Black Point and White Point

In general, white point refers to the colour of white and black point refers darkness of black. When one views an image, it is the white point of either the monitor that influences his colour sensation of all other colours seen. Density of black defines the range of brightness that a device can produce and pay attention to details and richness of colour. Therefore, when calibrating monitor, we should only get enough contrast at 100% to be able to distinguish between 95% and 100%, and between 0% and 5% greyscale.

Richard Minh Le

For more info please visit www.richardminhle.id.au or contact tradigital_le@yahoo.com.au

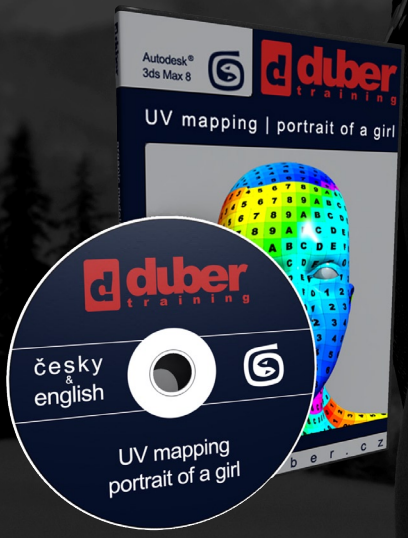
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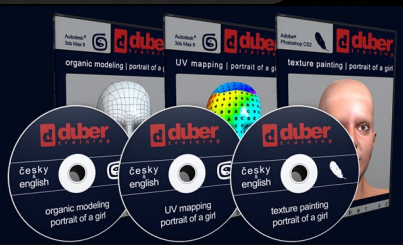
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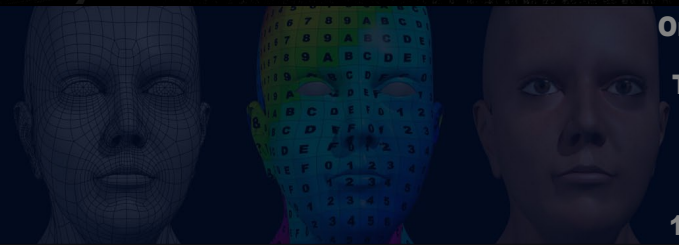


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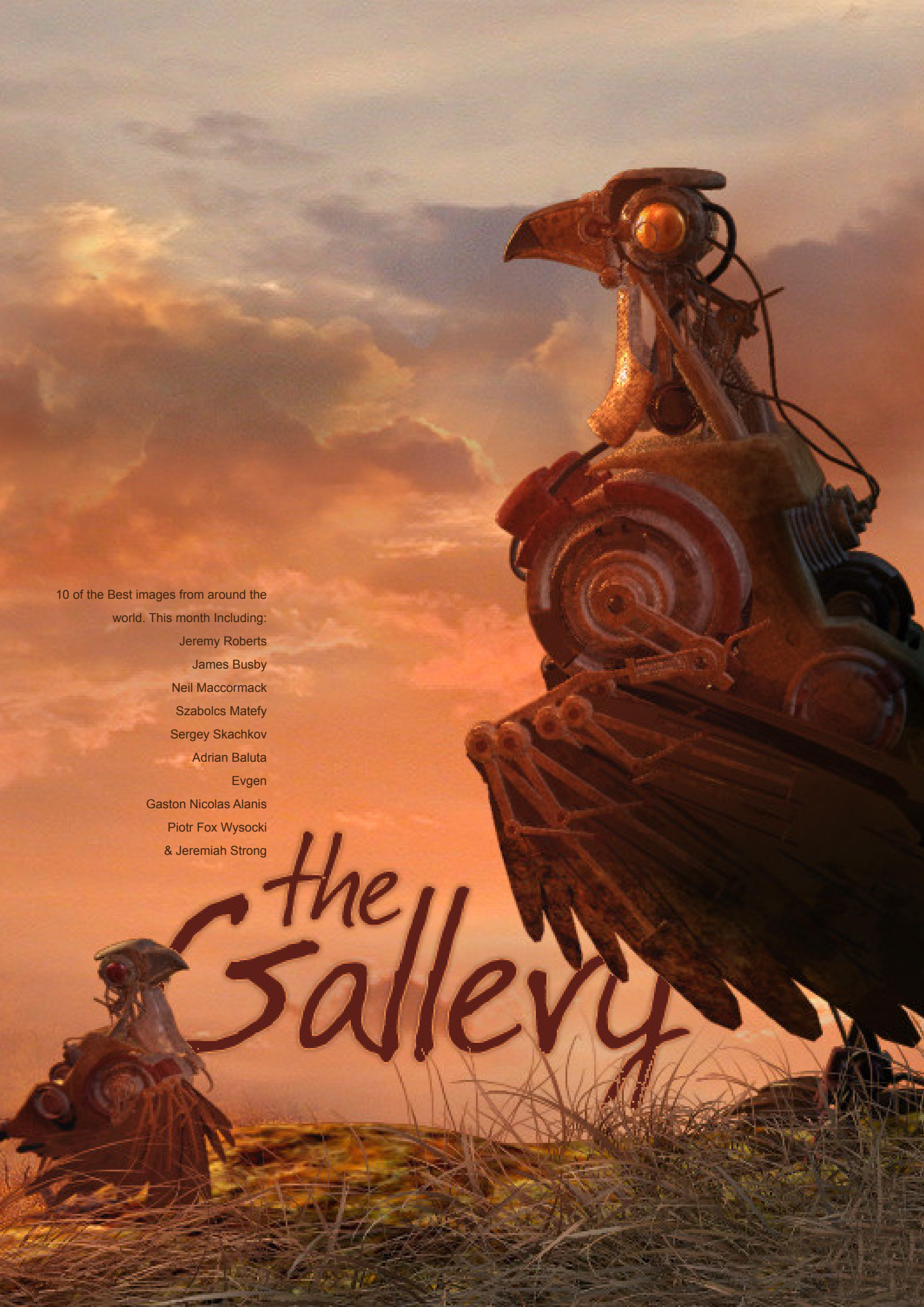


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- Geoff Cambell, ILM Senior Model Supervisor



10 of the Best images from around the world. This month Including:

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James Busby

Neil Maccormack

Szabolcs Matefy

Sergey Skachkov

Adrian Baluta

Evgen

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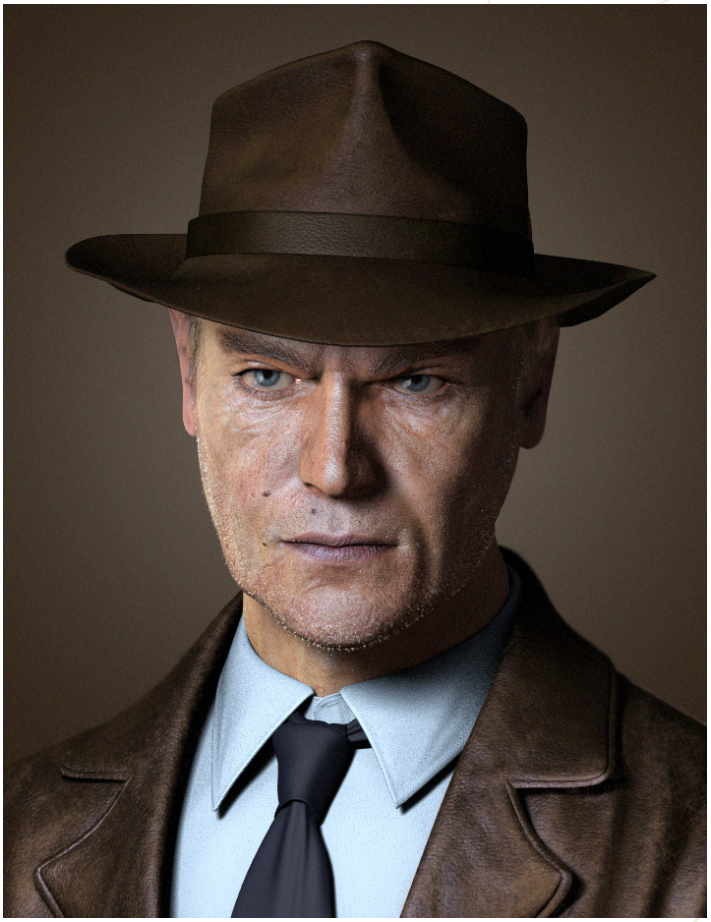
Piotr Fox Wysocki

& Jeremiah Strong

the Gallery

Old detective

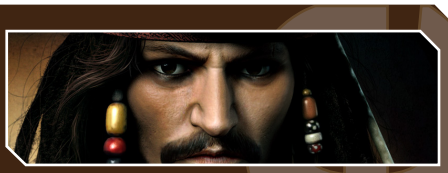
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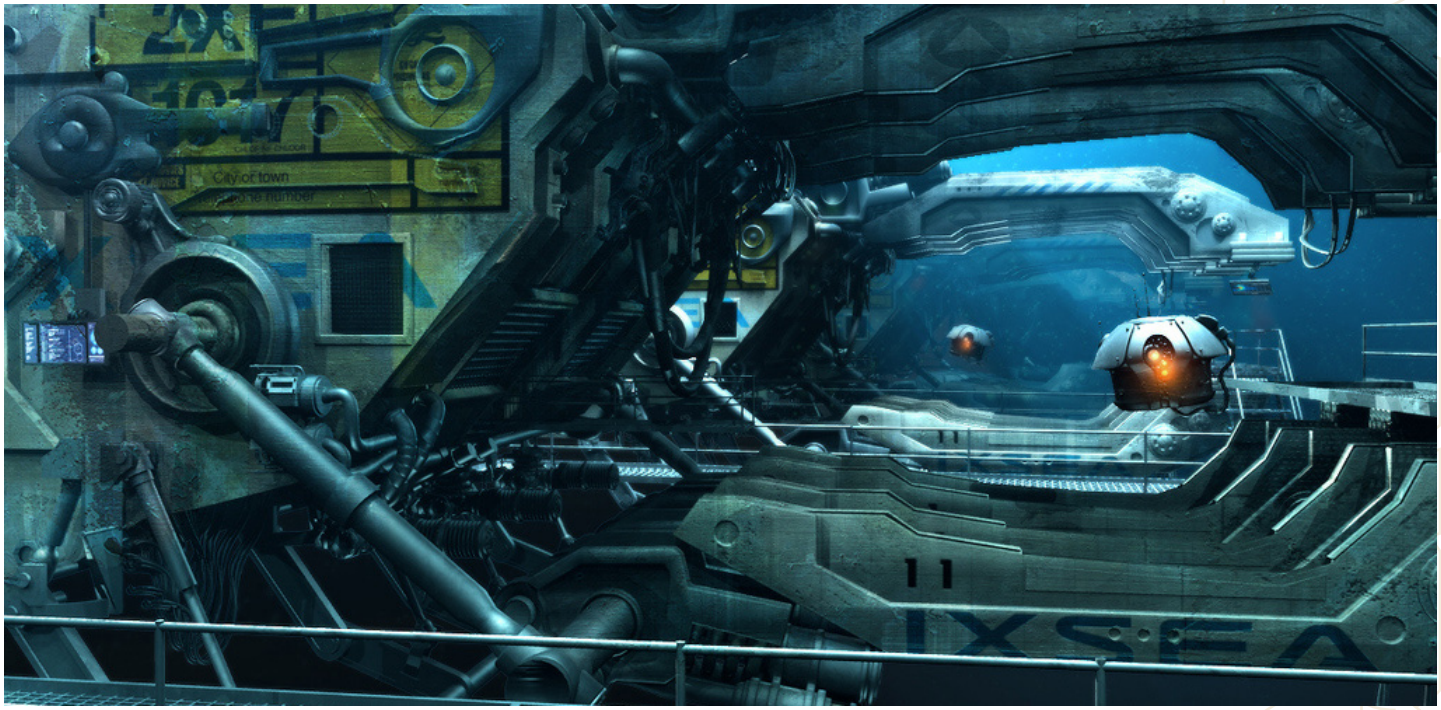




Captain Jack Sparrow

Jeremy Roberts
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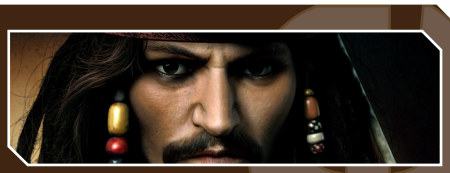
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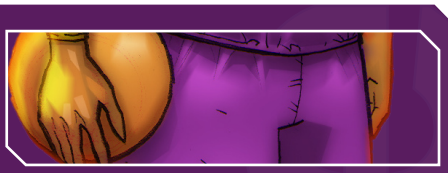


This month and next, artist Siku takes us through the process of texturing a stylised cartoon character. In this example, a Basketball Player created for a Game scenario.

Texturing Masterclass

Cartoon & Stylised Characters

Part One



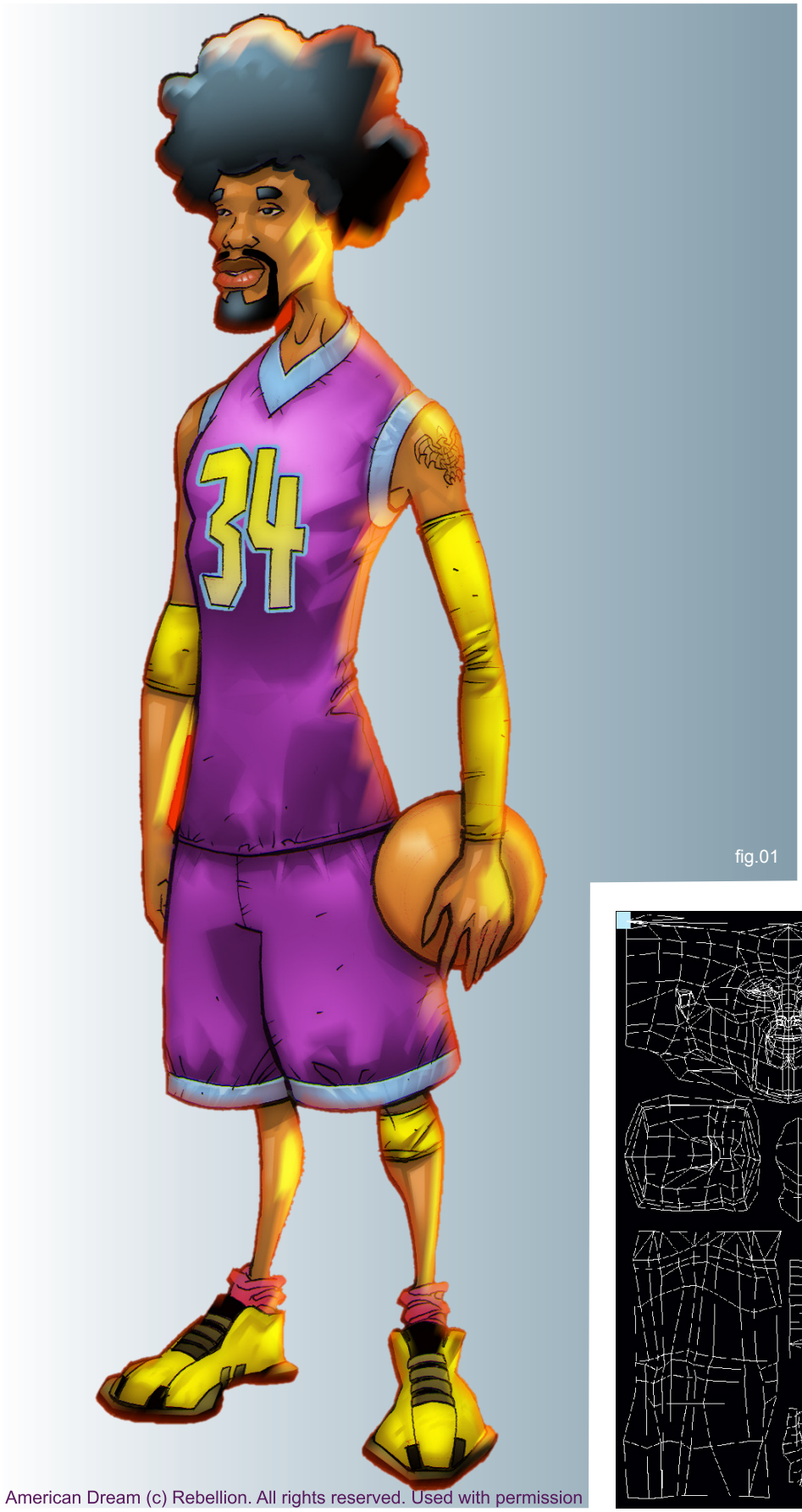


fig.01

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Unconventional Texturing Methods

The Basketball Player

Below is a standard videogame texture map. Bear in mind to set your map sizes as squares as this makes recall in real-time game engines easier. 1024 x 1024 pixels tend to be the most commonly used, especially for characters in games. (Fig02)

Real-time environments without dynamic lighting, require real world light simulations. One trick used in the industry is to set up light objects in your scene around your character. This technique is called texture baking, in 3ds Max, you would select 'render to texture' from the Rendering menu. Other 3D packages have an equivalent export feature.

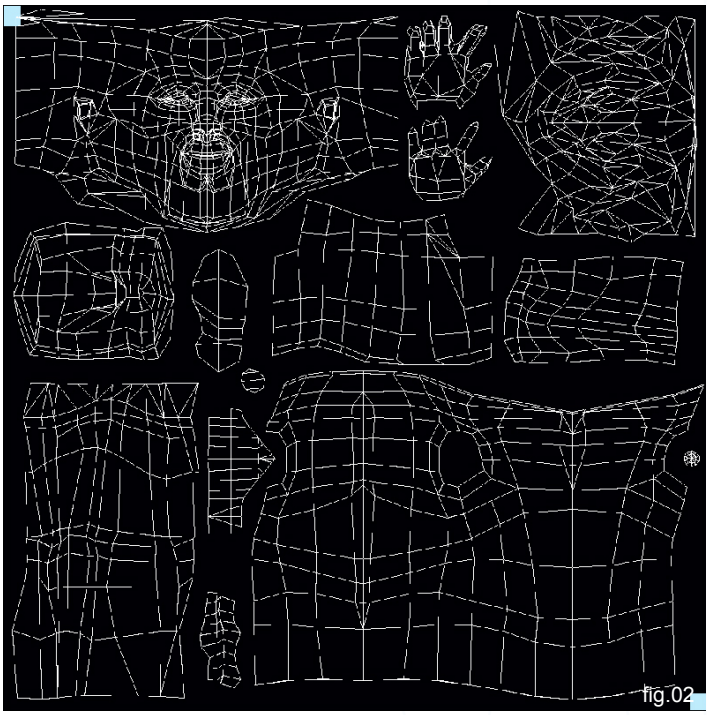
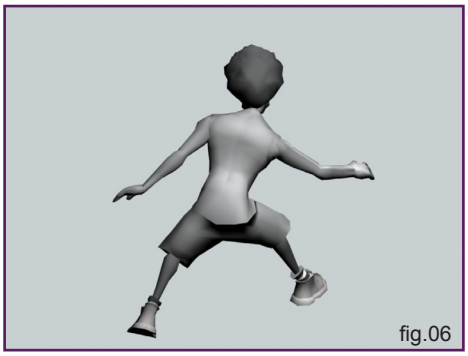
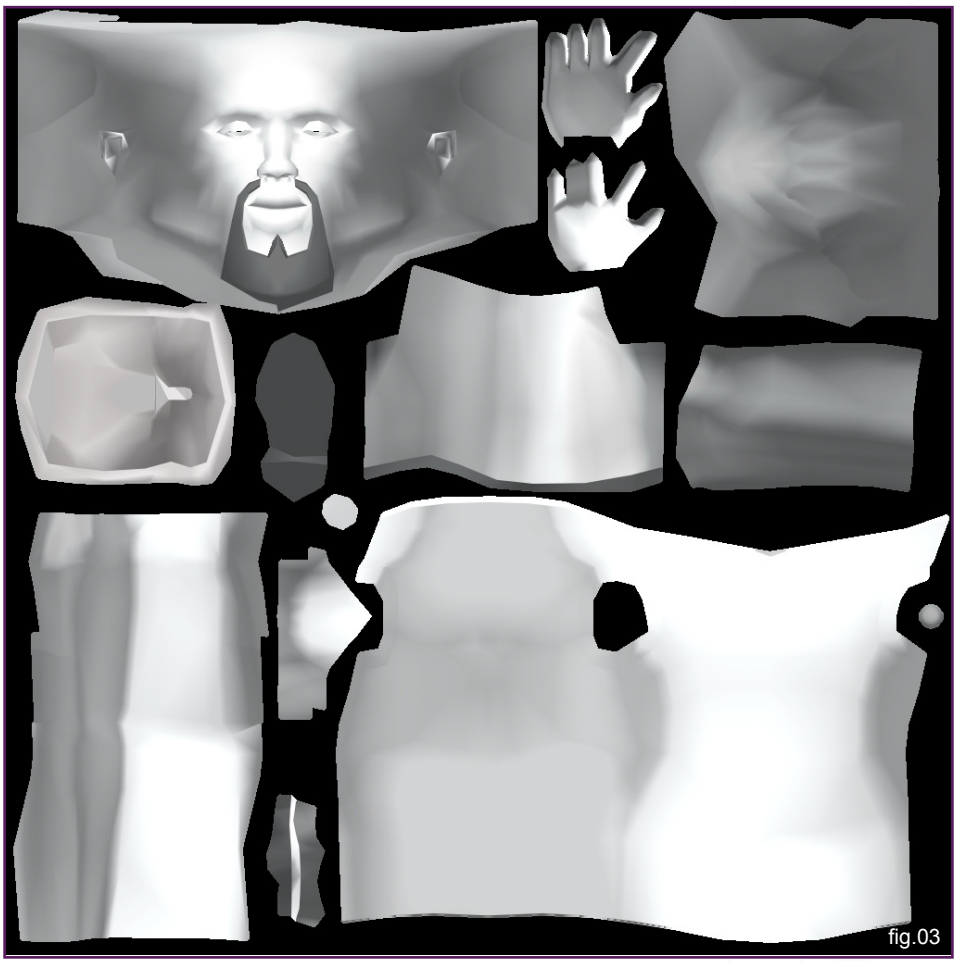


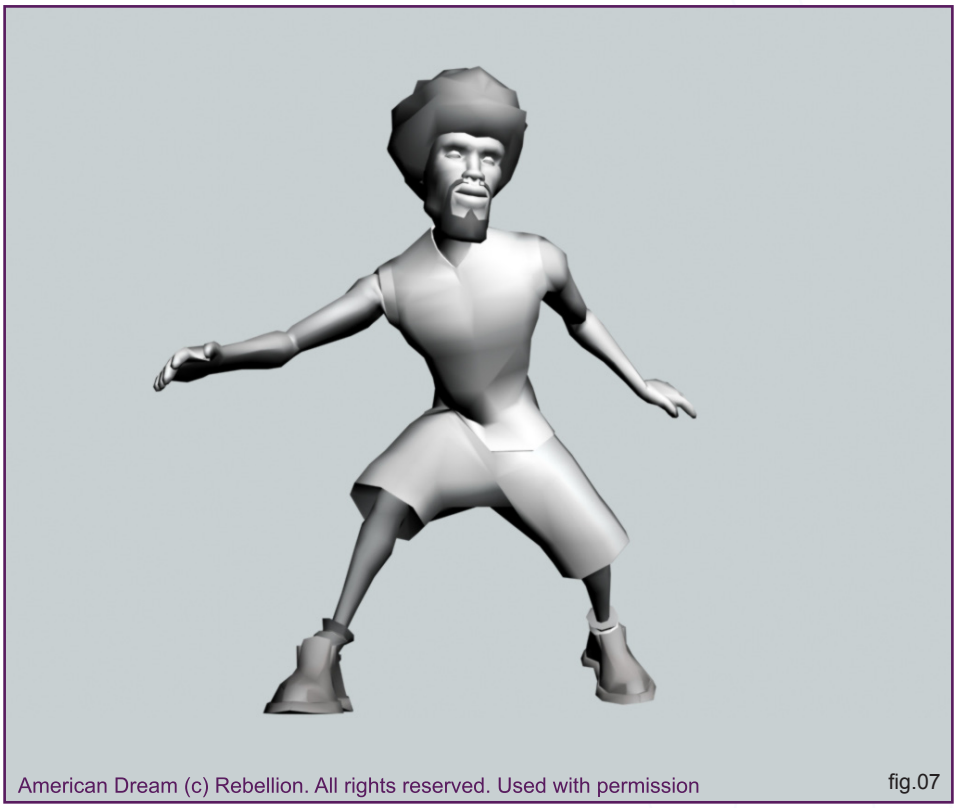
fig.02


fig.04

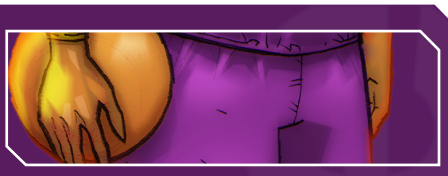

fig.05


fig.06


fig.03


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fig.07

The Texporter exported map above is perfect for precision, you can see exactly where your polygon faces are. For tone, we will reference the baked texture map in Fig03. The environmental lights simulations are now embedded in my map. Take a look at some renders of the basketball player with this baked map as texture. (Fig04, 5 & 6) It is a general rule to depend heavily on reference photos for texturing. To achieve realistic textures, artists harvest real photographs as a base. They paint in touches and saturate the picture to create a hand painted overall feel. We do not need to do this here. Our baked texture map is actually perfect for cartoon character textures. As you can see from the posed character (Fig07),



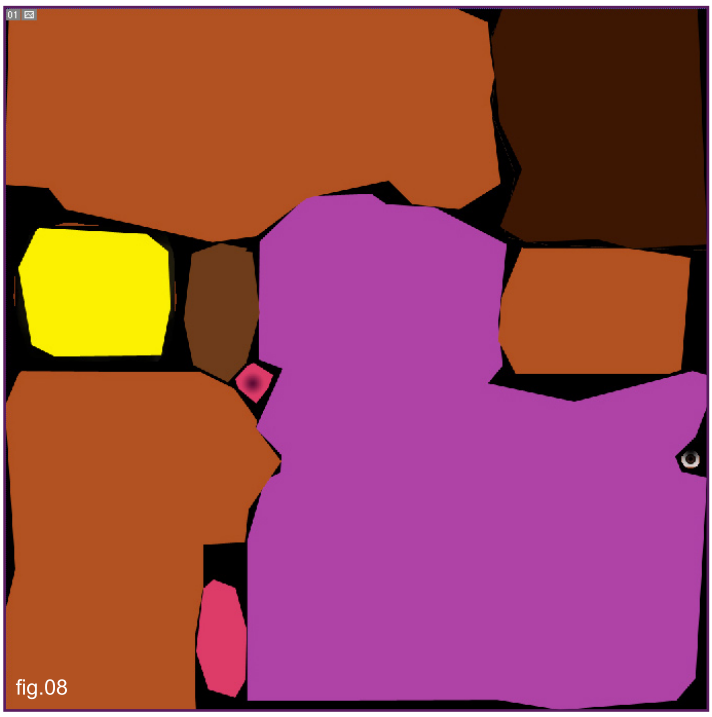


fig.08

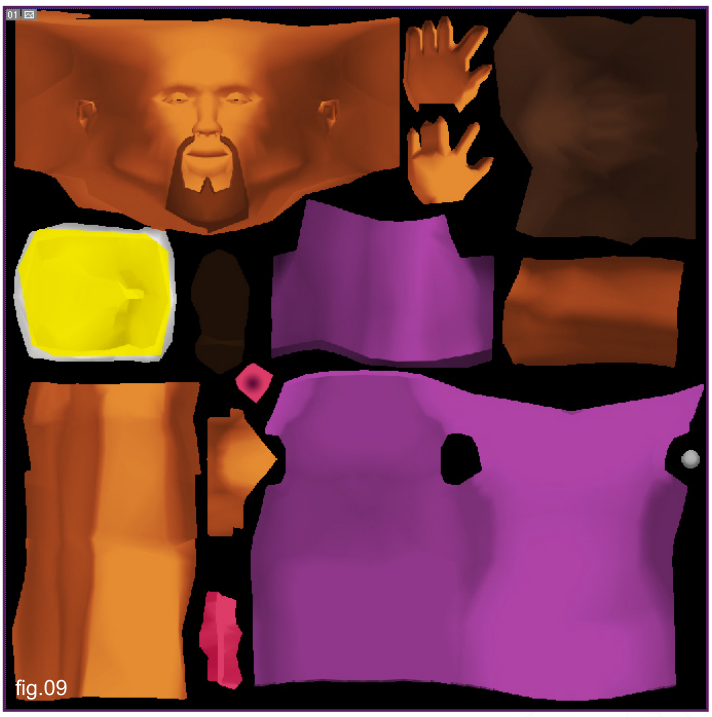


fig.09

baked textures work. Some artists actually simply apply block colours as an overlay on the baked map. These images display what they look like. Fig 08 shows the Block colours in normal layers and Fig 09 shows the Colours in their blended layers. These layers would still need adjusting and some details are still required even if we intend to use block colours. Nonetheless, let us take a look at what these simple colour applications will look like. (Fig10)

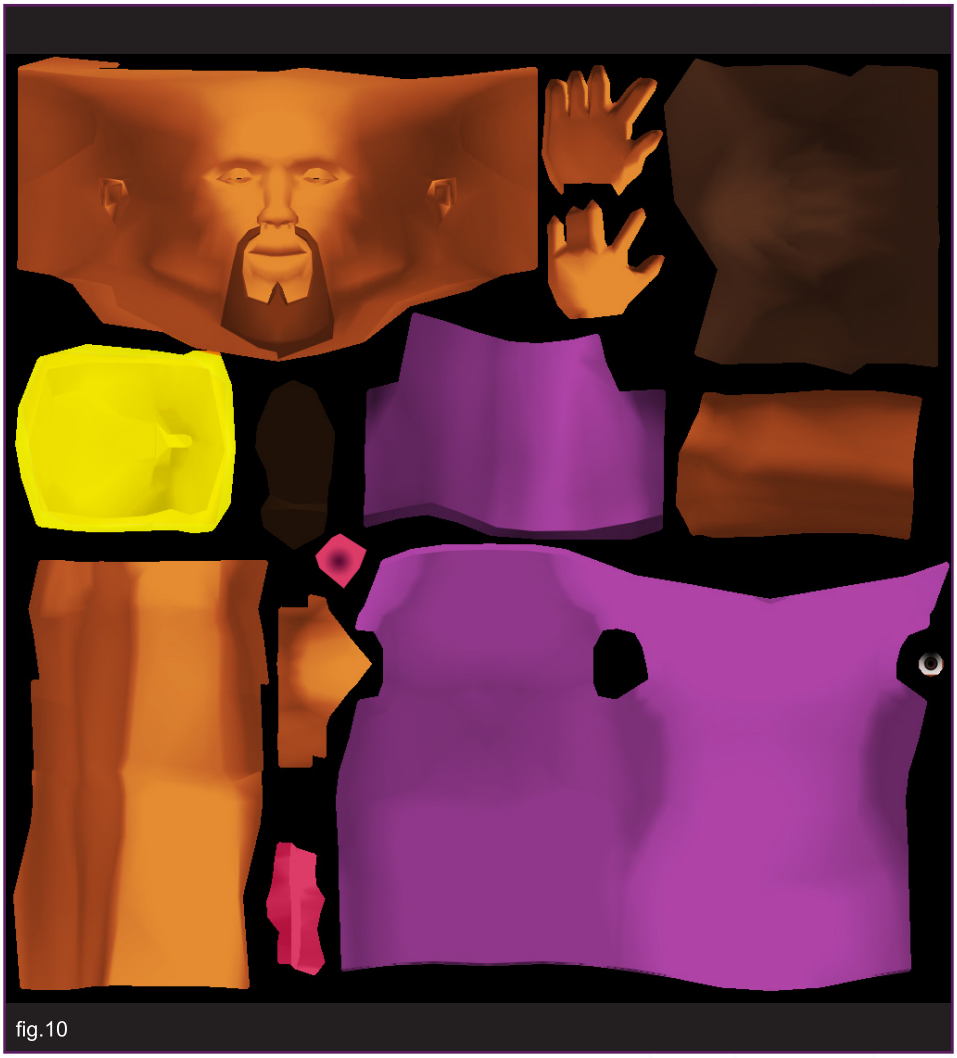
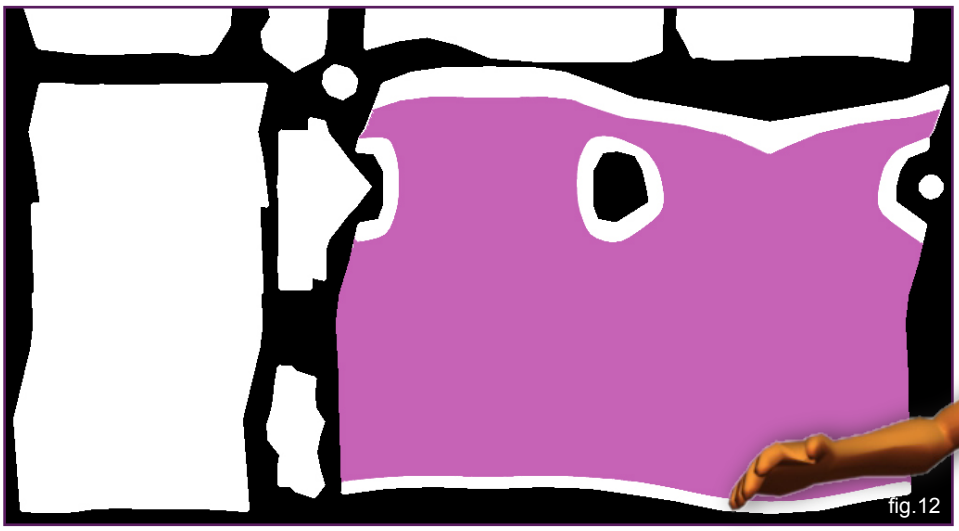
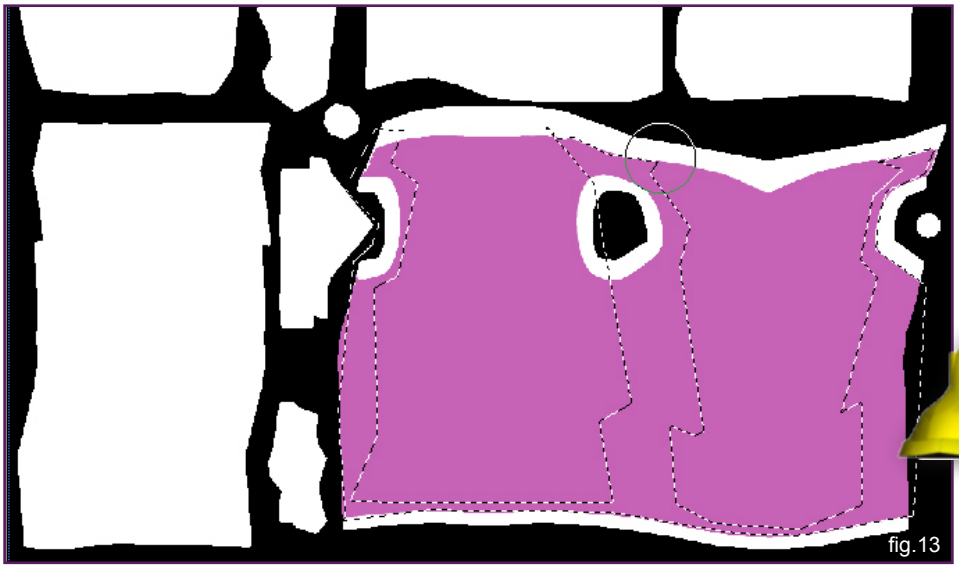
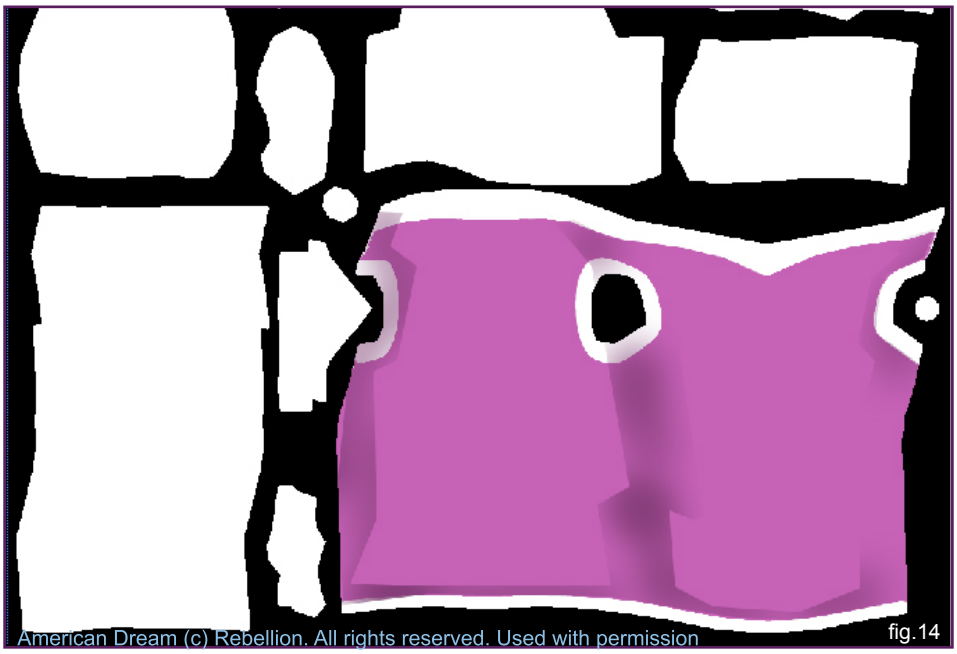


fig.10

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fig.12


fig.13


fig.14

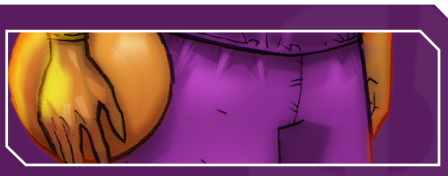
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fig.11



The flat tones over the baked map rendered to scene. I will not use this method for our tutorial, as I want a much richer tone and texture. But this demonstrates how baked textures work. (Fig11). Note:A novel technique used by some artists is to create a high poly model with all folds and seams modeled. This is similar to normal displacement maps- you might call it a cheaper technique. The scene is then lit and texture baked to a map. I will use this technique to do the number 34 on our player's jersey.

For our Basketball player, I will use the baked texture mainly for reference. Our metal ball experiment will pay dividend now. We are simply replicating our metal ball methods. I started with the medium colour tone as base. With the use of the selection tool, I mark out darker tone areas (using the baked map as guide) (Fig12, 13 & 14)



I use a large airbrush size to gently paint in the area. I tend to use very low brush opacity/ pressure settings. (Fig15). With carefully set wind blur I already have my shape. Sometimes, I shade only one side so I can duplicate the layer>horizontal flip the shift to the other-side. Set wind blur at an angle to simulate the natural shape of the torso. The opacity of the layer is lowered for a subtle touch. (Fig16). I will now abandon the baked texture for my own little trick learnt from painting comic books for 2000AD. The shape of the underside of the breasts and ribcage selected. This creates a strong torso illusion. In real life, the torso does not do this unless a person lifts up their ribcage. Gently apply wind blur. This time set vertically at 90 degrees. (Fig17). Remember, I am using the wind blur filter to achieve a level of consistency impossible in manual blending. Do not worry about any apparent artifacts or aliasing right now. This is only the first tone over the base colour. For the back of the player, repeat the shading process performed on the front. (Fig18). Now let us do some detail work. Note that though our textures appear simple, attention to minute detail is what will make our textures plausible. Exaggeration is an absolute requirement when texturing for games, the sum total of understated and exaggerated detail creates the whole. (Fig19). Here, I will pick out folds from the underarm area and create bevels. Remember to set a wind blur angle that corresponds plausibly with natural folds. Attend to detail, gently highlight the parts were two clothes meet and fold. (Fig20 & 21)

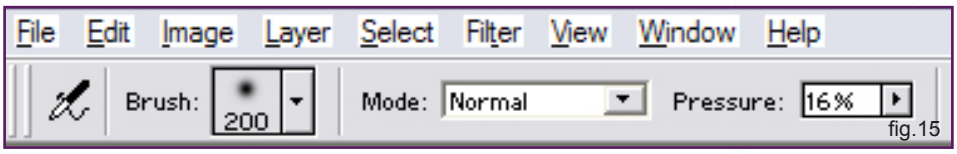
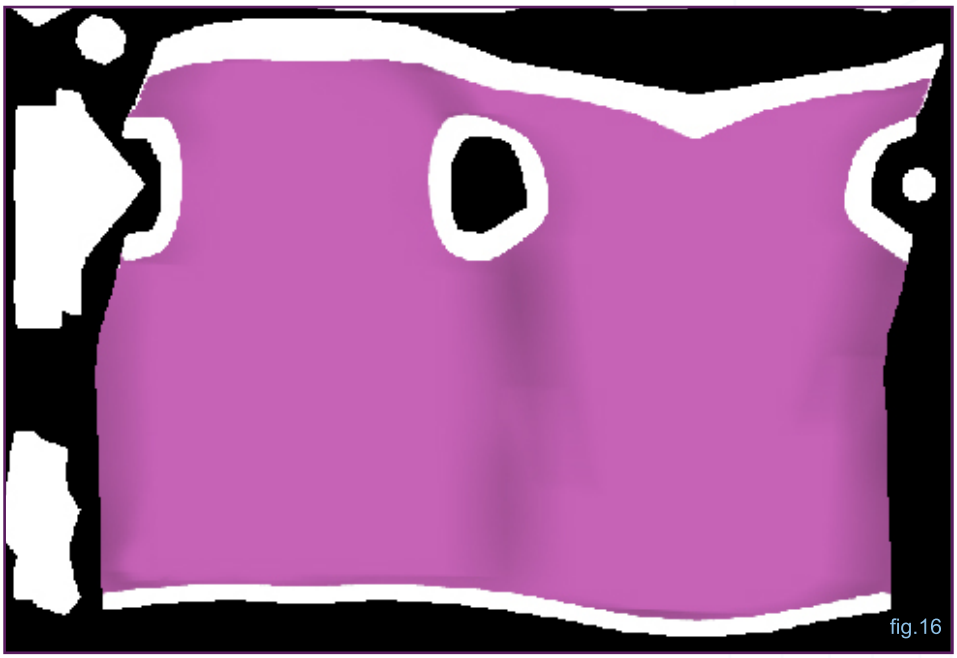
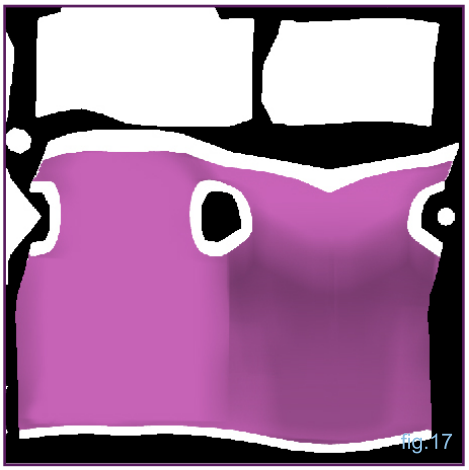
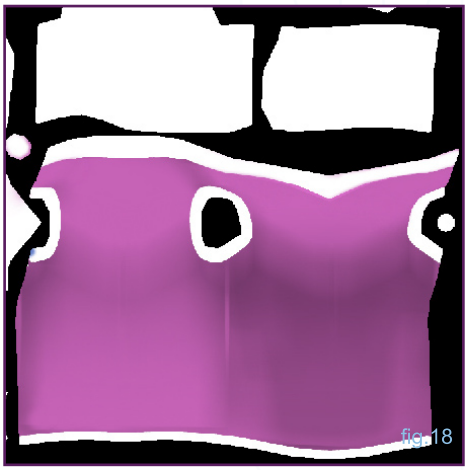
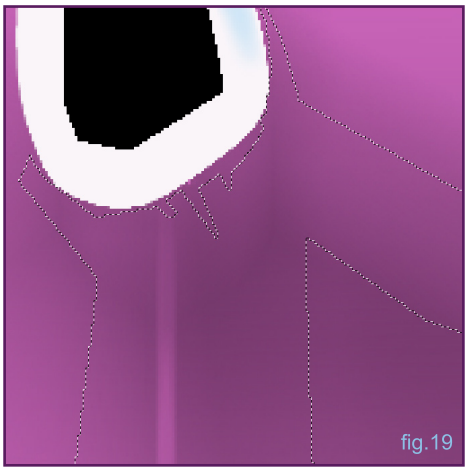


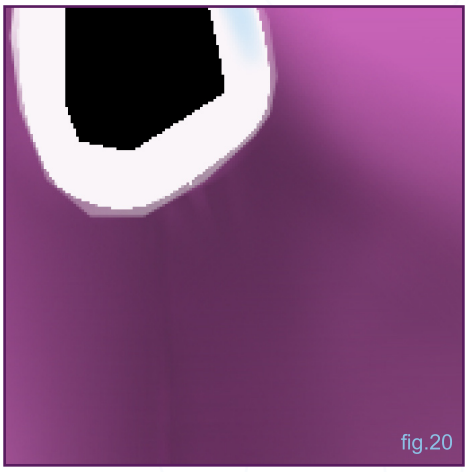
fig.15


fig.16


fig.17

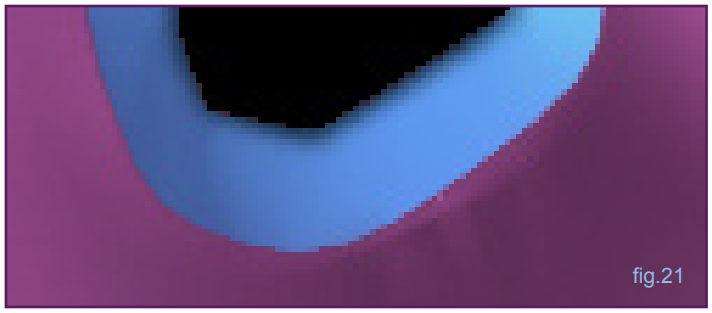

fig.18


fig.19


fig.20

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I proceed to paint a darker shade to cut out breast parts, seam lines and seam tension. (Fig22). I have painted the blue trimmings in exactly the same way. (Fig23). Check out those seam lines (Fig24). The trick is to subtly suggest the detail. Too much texturing on a flat surface will deliver diminishing returns. That is why some characters in some games look like they have been 'painted on'. Carefully balance suggestion with detail. Preview the texture on the character to determine if your works. Excessive work tends to stretch on the model. An accumulation of overwork will make your work look amateurish. I have blocked out the base colours for the other parts. Naturally, I should move on to the shorts. Instead, I will do the jersey number, just to keep myself fresh. (Fig25)


fig.21

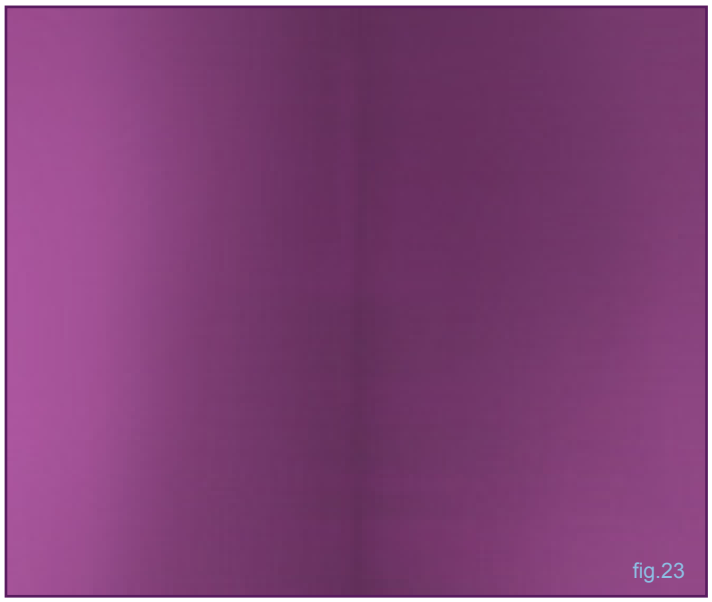
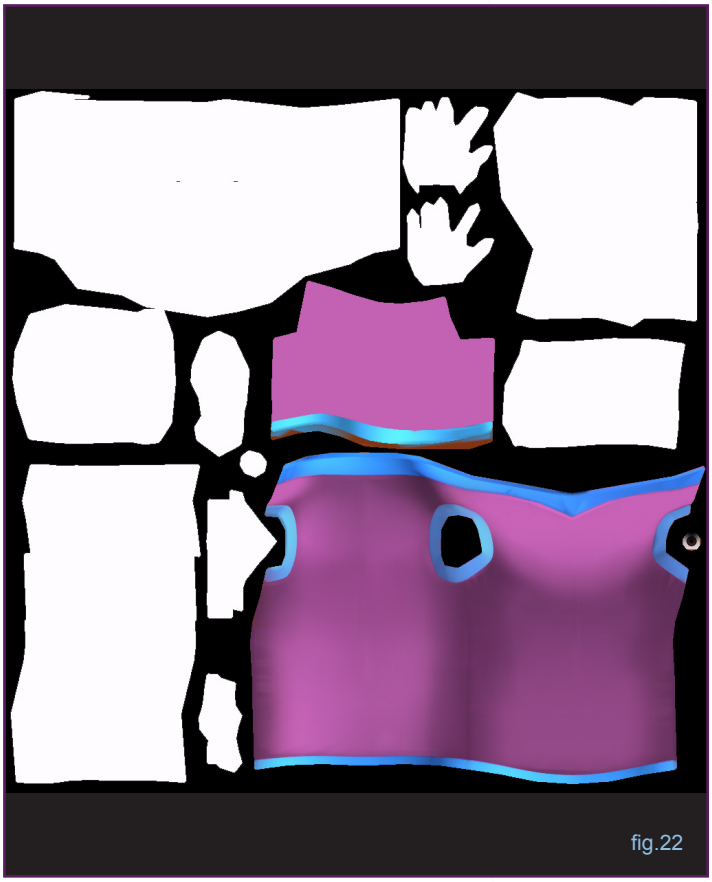

fig.23


fig.24


fig.22

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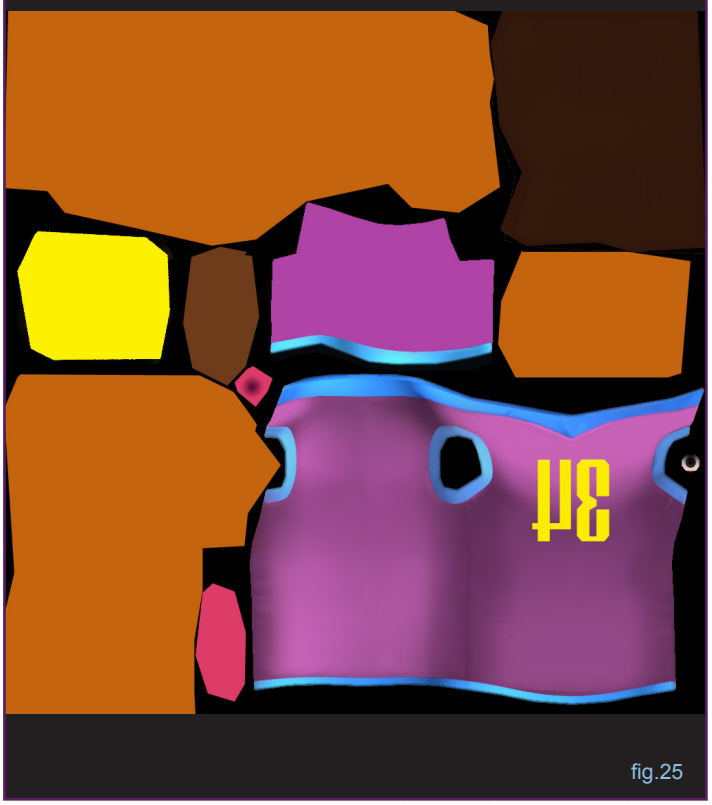
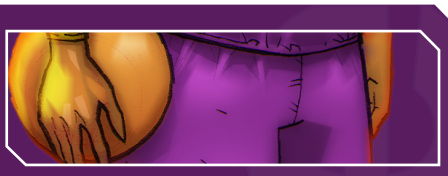


fig.25



Text

I am aware of two methods. The first is to create text in Photoshop, the second is to create it in a 3D program.

Creating text for our style in Photoshop

Our text would be quite simple, as it is not supported by geometry in our model. With the use of Layer styles we will subtly apply bevel, Embossing and Drop Shadow to imply a raised surface. Too much detail will look wrong without support from geometry. (Fig26). I make a copy of my text, which now contains graduated tone to simulate lighting (lighter at the top), it is then rasterised. The rasterised copy is turned into an overlay layer, beveled and embossed. Remember to adjust the shadow mode colour. (Fig27) The rasterised layer is duplicated. A double layer creates an intense/saturated tone. (Fig28)

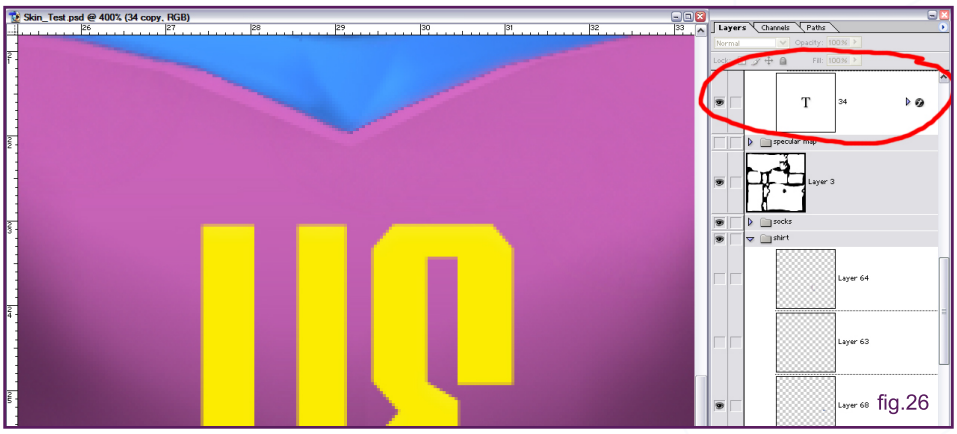


fig.26

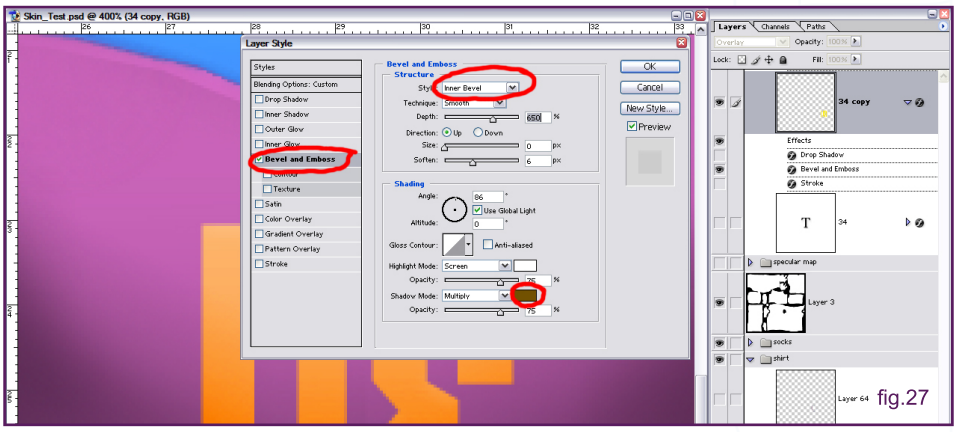


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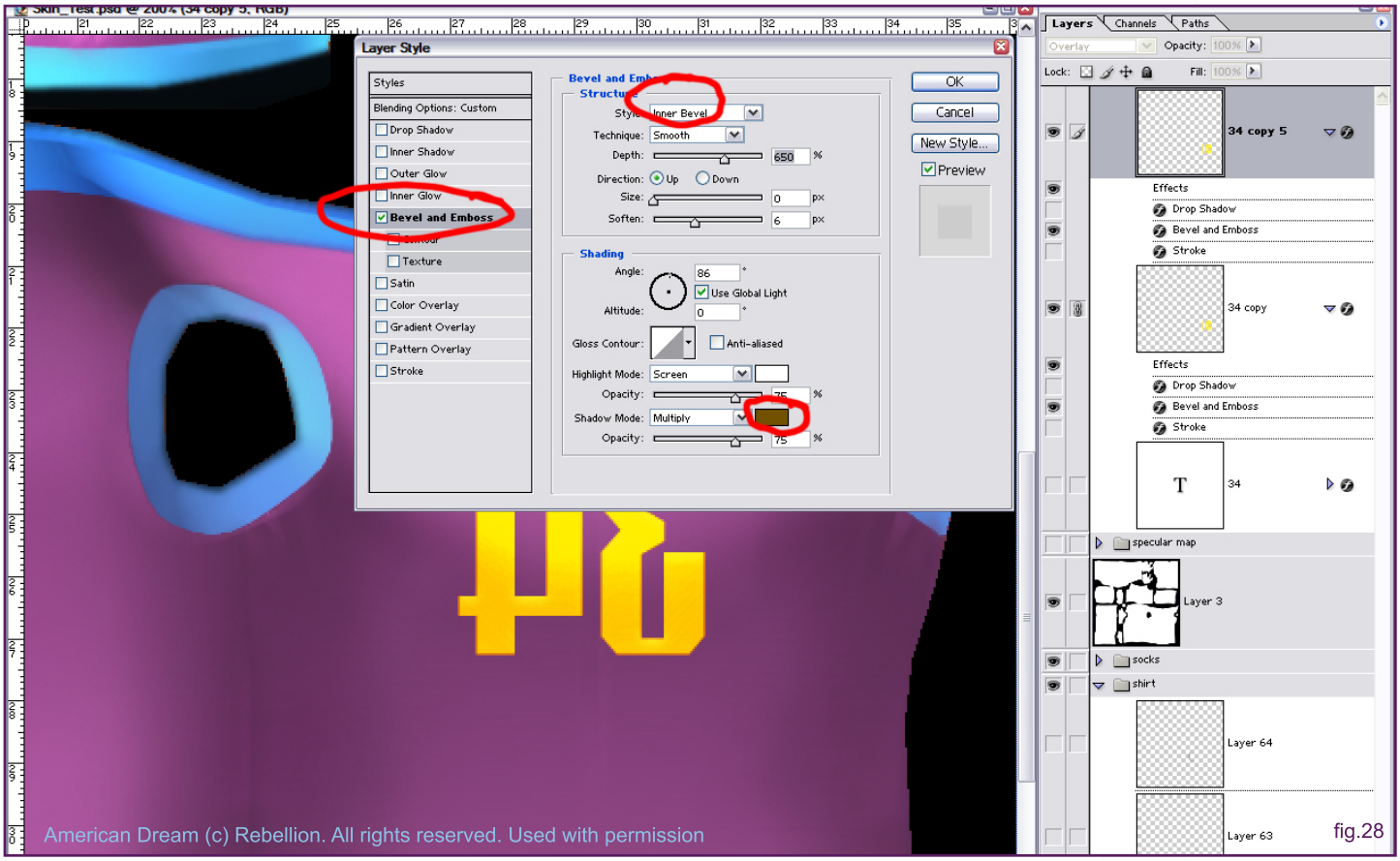
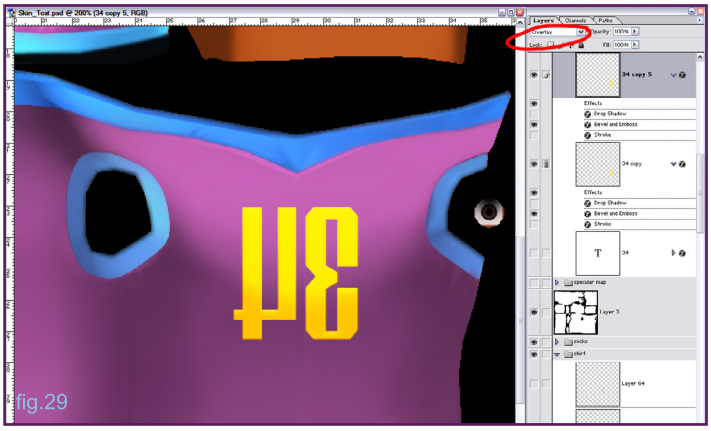
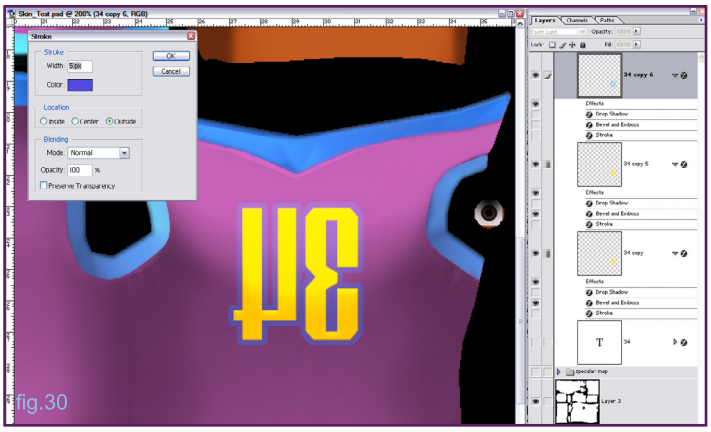


fig.28

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fig.29


fig.30

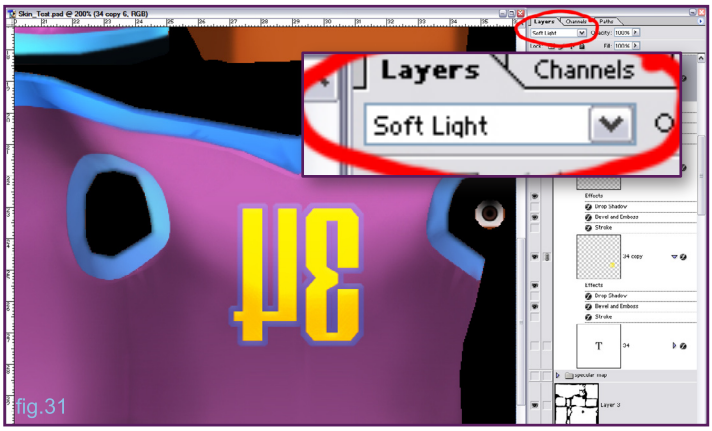


fig.31

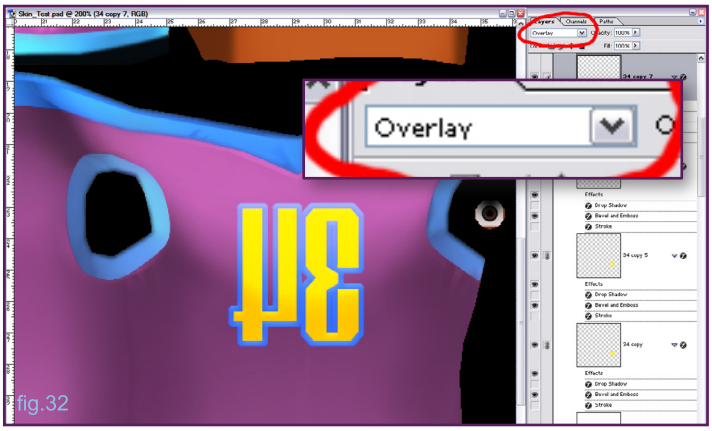


fig.32

Select the text and stroke it on a third layer (Fig30). Turn the layer into an overlay layer in the blender mode. (Fig29). Then double it. You may need to adjust the colours in the colour adjust menu. (Fig31 & 32)

Creating text for our style in 3D.

Create your text in 3D, colour the polygons and light the scene (Fig33). Export as a Targa file so that an alpha layer is automatically created. This is for easy masking/ selection for pasting into your texture map. I will choose one later. (Fig34 & 35)

Tutorial By Siku

For more work from this artist please visit
http://theartofsiku.com or contact mutantbox@hotmail.com

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fig.33


fig.34


fig.35

Vue 5™

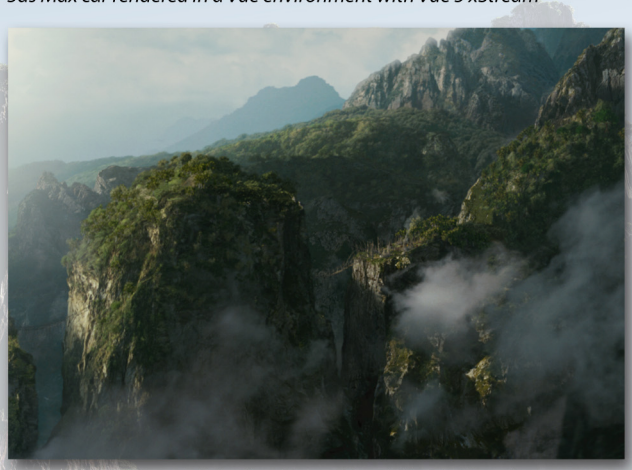
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Tutorial

Welcome to our ongoing tutorial which will provide a step by step guide to building a low poly character based upon a model by Seong-Wha Jeong. Over the next eight months we will be covering how to build, map/unwrap and texture the character.

3DSMax Version
Page 094

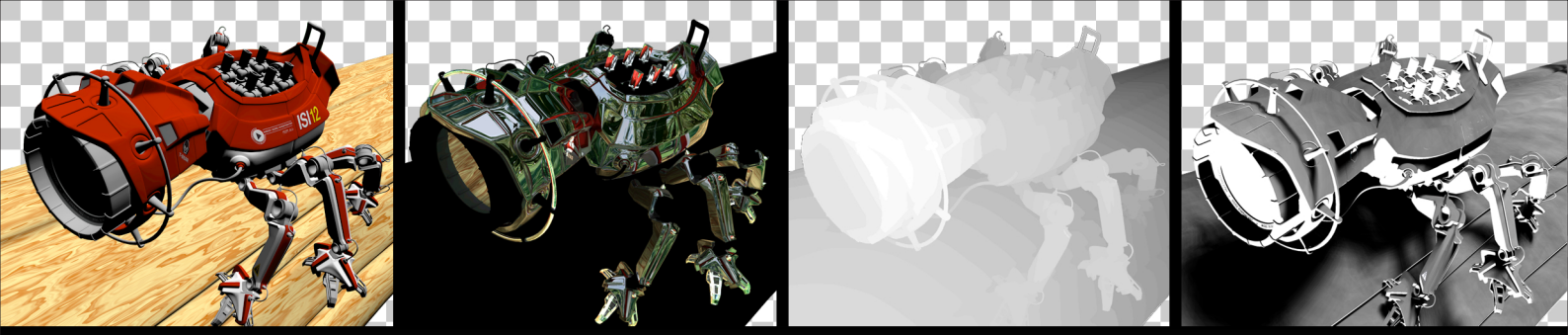
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THE POWER OF LAYERS

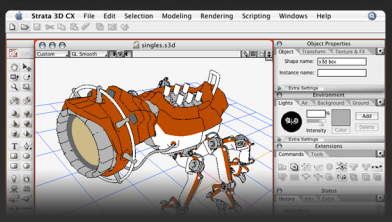


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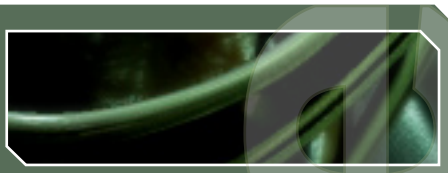
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David Munoz Velazquez

Model in 3D Saturno

The idea of this Character design came to me while I was having a look at some Astronomy Websites. I saw pictures and specifications of the planet Saturn and I thought it would be interesting to create a Character from there. I haven't used any concept drawing for this particular model, I wanted to make it up whilst modeling, to see what I would come up with.

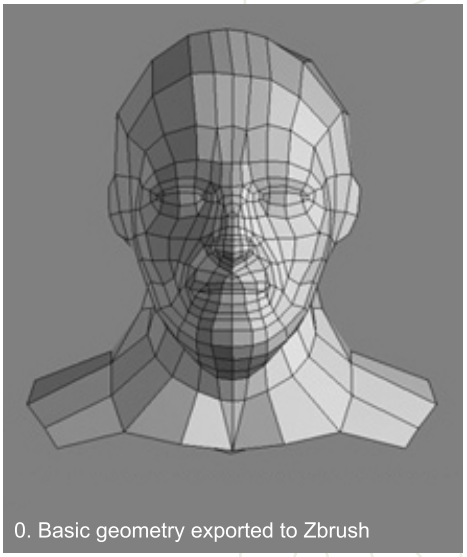


made in saturno

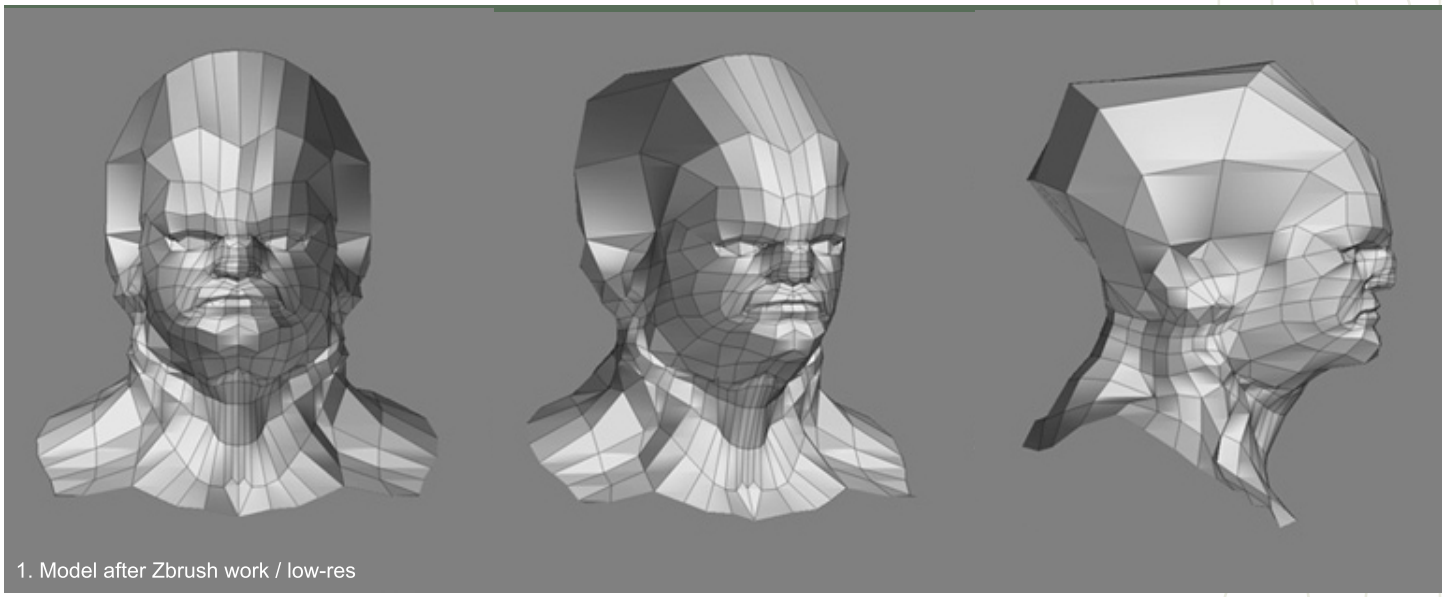
0. This image is the basic model I exported to zbrush. I wanted it to be expressionless to avoid the model suggesting any modeling direction or design. Just a human “blank” expression.

1. Image 1 Is the low-res geometry after zbrush work. The result of all the moving and pulling I did to get something I was happy with.

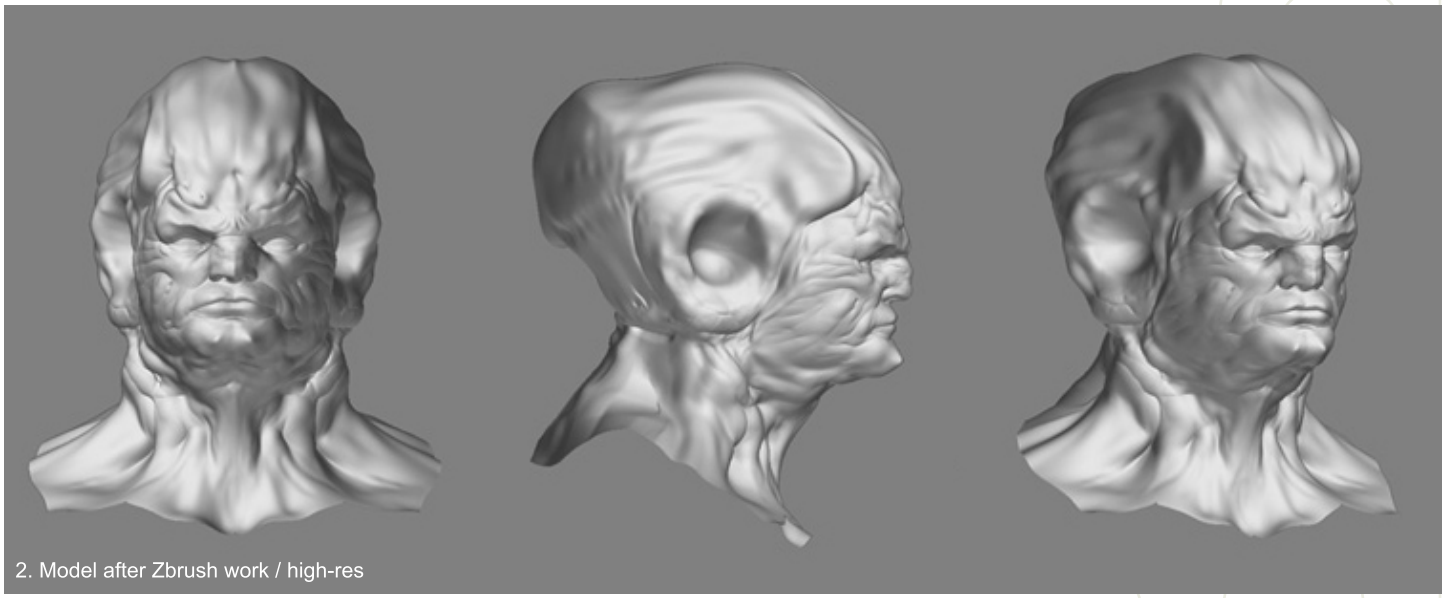
2. Image 2 is of the same geometry, but on the highest level of detail within Zbrush. I didn’t add any small details such as skin wrinkles, pores etc... as it makes it faster to render on max. I also didn’t use any displace maps. I then exported a high resolution model from Zbrush to Max.



0. Basic geometry exported to Zbrush

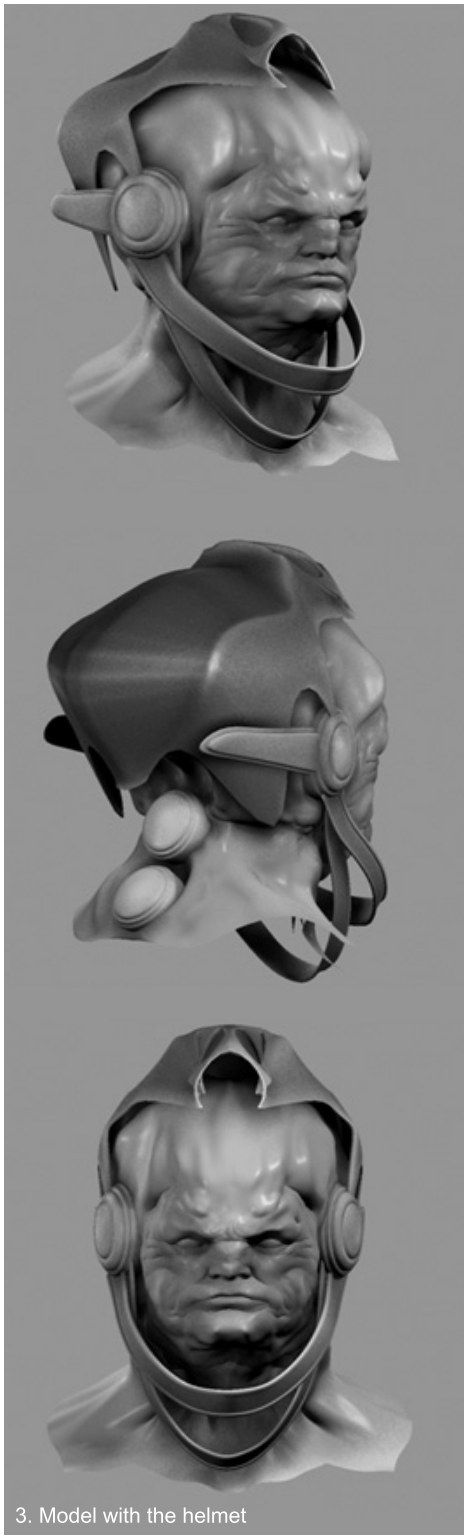


1. Model after Zbrush work / low-res



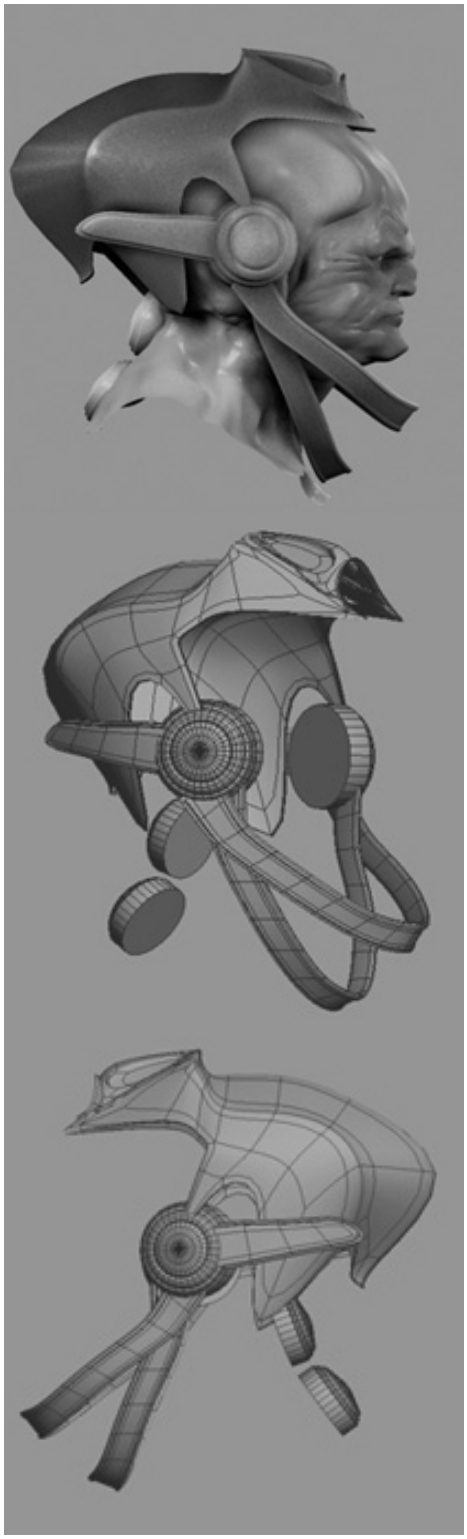
2. Model after Zbrush work / high-res

3. Image 3 is the model exported as it looks in 3DSMax without any bump or displacement. There are a few images of the helmet. I used the same process to model the geometry straight away in 3DSMax, without any previous research or design.



3. Model with the helmet

4. Image 4 shows a self-Illuminated render of the bump map for the model. Also there is a render of the model with the bump applied, so I can play with the values to see if is hard enough. This will eventually change when I render the Subsurface Scattering.





4. Bump map



4. Bump map applied



5. Image 5 shows the bump map with details added. The bump map is now sufficient enough for me to not have to apply any displacement to the model.

6. 6 is a Render of the diffuse texture applied to the model. It is self illuminated to see how it fits on the geometry. It also allows me to see if the morphology of the face is clear enough and if I like it so far.

7. Is the combination of the SSS, texture, light color and very soft Shadows. Gives me the base to start working.

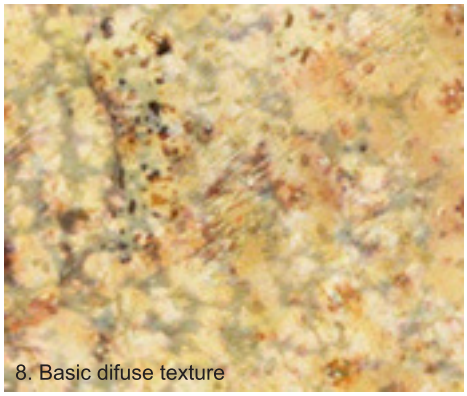
8. Is a sample of a texture I have used for the model skin. It Has been created by mixing several textures from the **"Total Textures v11 Alien Organic"** and **"v4 Humans and Creatures"** Texture Collections



6. Difuse texture



7. Difuse texture
subsurface scatering light colour



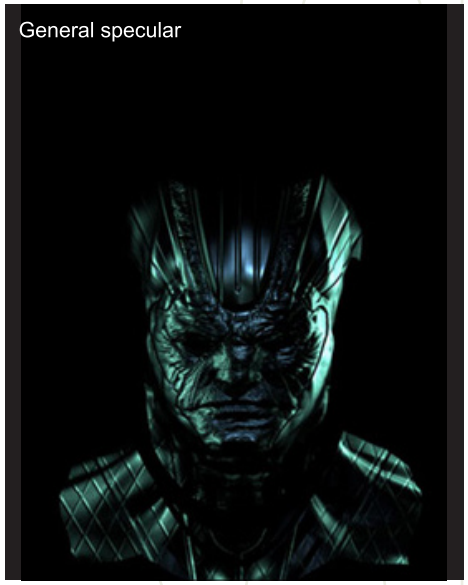
8. Basic difuse texture



9. SSS, texture, light colour

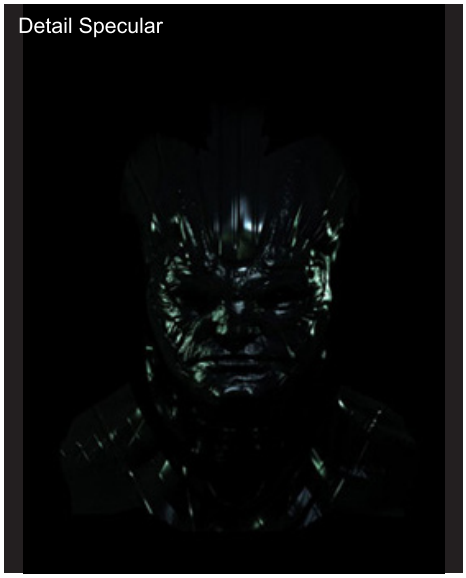


Occlusion



General specular

Detail Specular



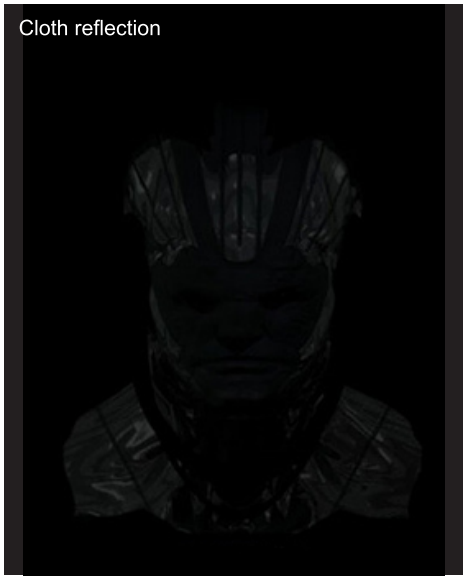
Helmet detail specular



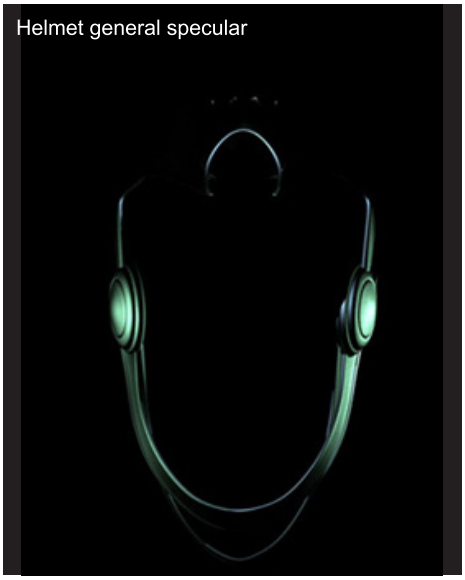
Mask



Cloth reflection



Helmet general specular



Z-Depth



Shadows



Helmet reflection



Background



9. The Here are a few samples of the layers I have used to build up the picture. I used photoshop to compose it layer by layer. That gave me much more control of the final result even on a as simple a picture as this is. It can come in even more handy if you have a full, very complex scene, as it can save having to re-render an entire scene. You will only have to re-render certain parts if a mistake has been made.

Composed final image



10.

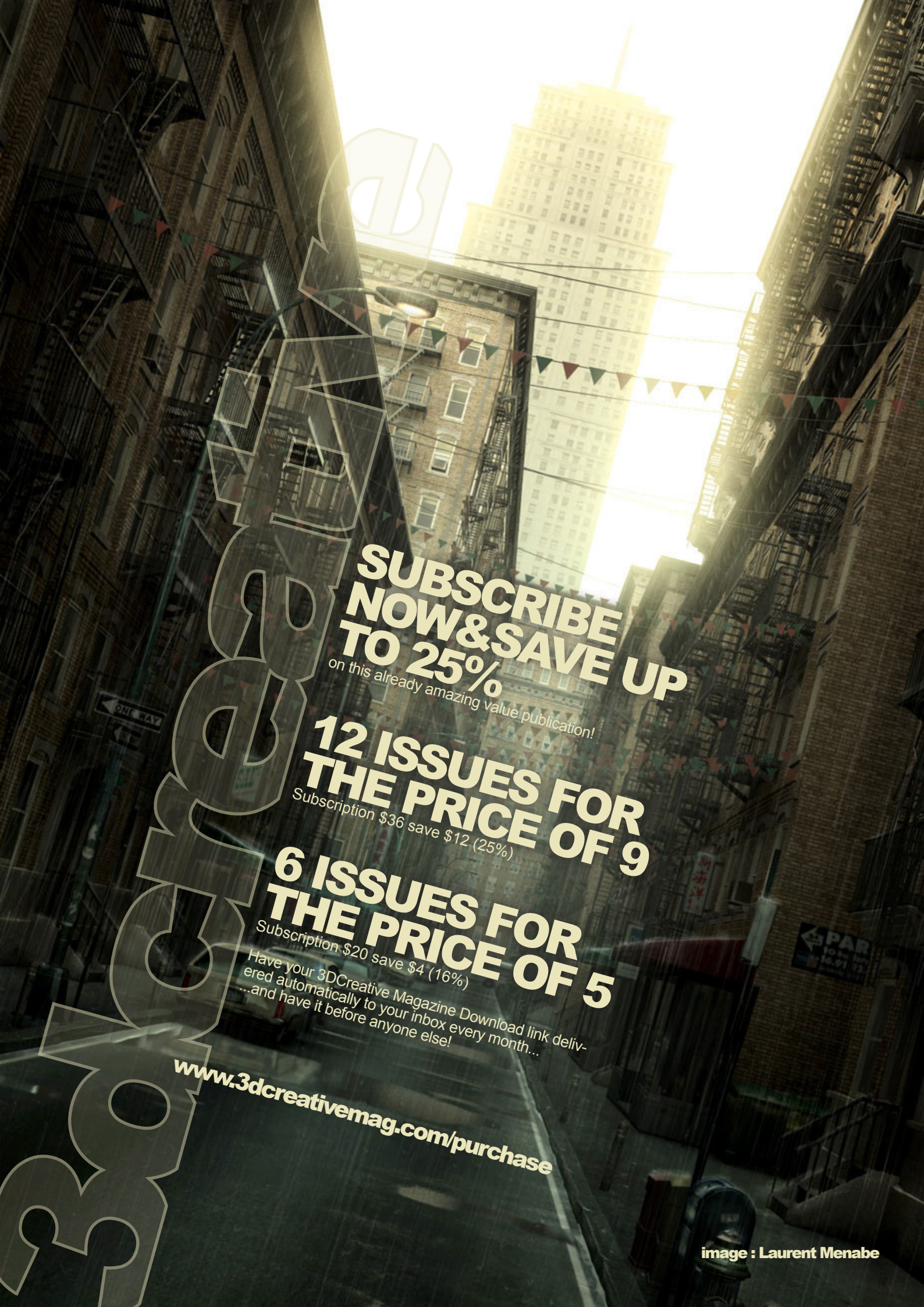


10. CLICK HERE to view an animated Gif of the full compositing process to get the final picture. With all the layers I have used. Color, Brightness and Contrast correction, background etc...

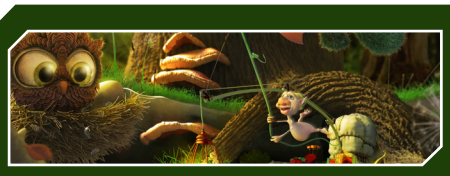


David Munoz Velazquez

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magic fluff
by Y.Soner Yurtseven



Magic Fluff

'Magic Fluff' won 3rd place in the CGSociety challenge 'The Journey Begins', & I'm going to attempt to explain the making of this scene in as much detail as possible. The most important part of any project is the concept, so after receiving the challenge subject I created a scene & added some characters. I then drew some sketches, after which I started modeling each of the characters. While I was creating the character models I tried to keep them similar in style as they're all meant to belong to the same world. However they also had to be very different to each other. I tried to make them as believable as possible, even though the world is fictional. Here is the story of 'The Magic Fluff'... In the land of 'Dabunlesia' there exists a legend of a bird, a magical bird. It's magical because it has 'magical fluff'. If someone finds only a small bit of fluff then they will have the ability to fly, just like the bird itself which I have named 'Simurg'. True to the legend, Simurg has thirty different bird features & is supposed to bring good luck. Inspired by the legend, two more characters 'Nosey' and 'Freckle' begin a journey with their little monster friend 'Greg' & the lazy 'Fire Fly'. Using his plunger arrow, Nosey collects fluff from every bird that they come across on their journey & puts it on the carriage to later test whether they work or not. Whenever they come across a bird, even they don't feel like it's the magical one, they get the fluff anyway. One day they come across a bird with a bemused fluffy baby nearby in it's nest. The bird is a 'Puhu'. Nosey and Freckle don't know anything about the Puhu which meanwhile is getting angry with them being so close to the nest. But they are sure that the bird is the one they're looking for. Suddenly, feeling as if under a spell, they look spellbound at the Puhu. Nosey gets his pump arrow ready to get the magical fluff and Freckle tries to reach the Puhu by swinging on a vine as he has lost his mind. What a big mistake that was! Thinking that Puhu is the bird they were looking for. However, behind the tree, the Simurg watches them with a funny, inquisitive expression...

Fig01



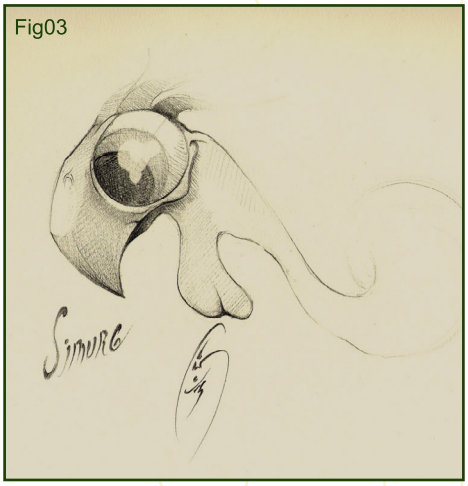
Sketches

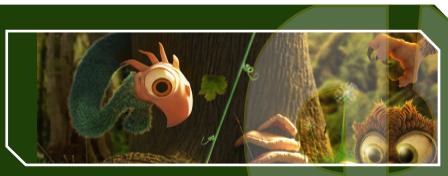
I tried to make all of them childish and try to keep their cute styles. (Fig01, 02). The next step was beginning the modeling of these characters (Fig 03). During the modeling period I had to changed some details (Fig04).

Fig02



Fig03





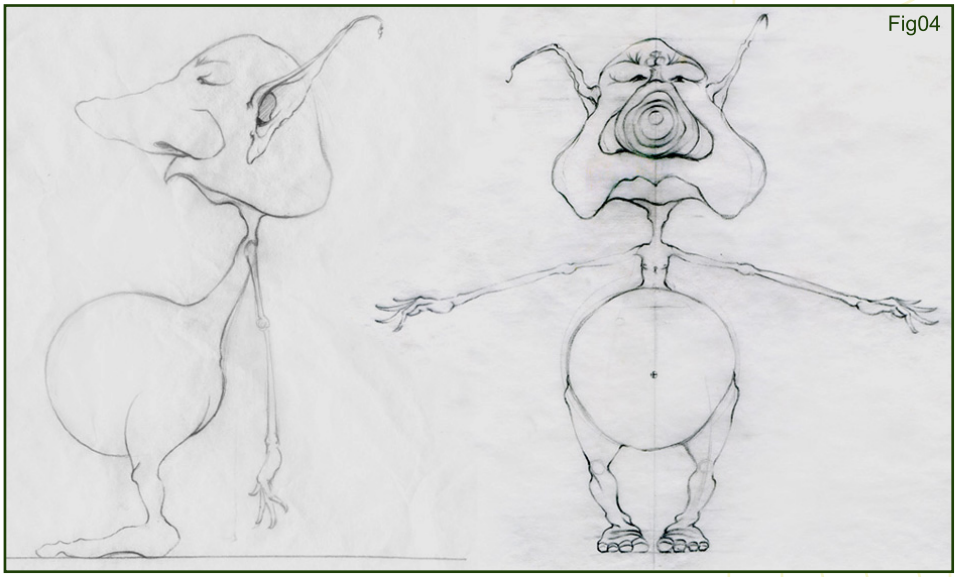
Modeling & Texturing

All characters and materials were modelled in Maya and then detail was added in ZBrush. A low poly modeling technique was used.

Nosey Modeling 'Nosey' was the first fun for me. As well as being the most intelligent and creative, he acts as the beacon for the group. (Fig05).

Freckle is the crazy one so in the scene he's trying to fly with a vine, he has no clothes on, his hair style is crazy and he has a nitwit expression on his face (Fig06). Fig07 shows the Textures on 'Freckle' and 'Nosey'. All textures were created in Photoshop. Fig08 shows the facial expressions for 'Nosey'. For these I prepared a blend shape.

Fire Fly is a very chatty fire fly, also very fat and lazy (Fig09). Because of his laziness and fat belly he spends his time in a cage which is shaped as an oil-lamp (Fig10).


Fig04

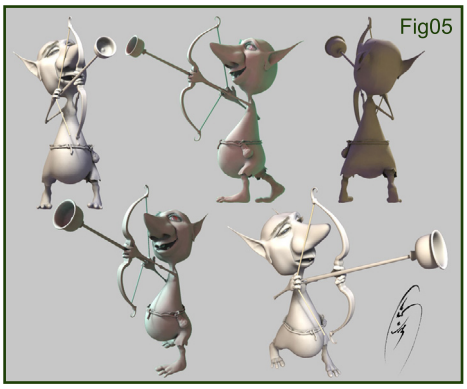
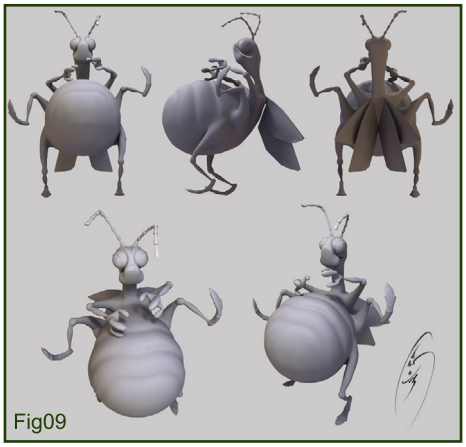

Fig05


Fig07


Fig09

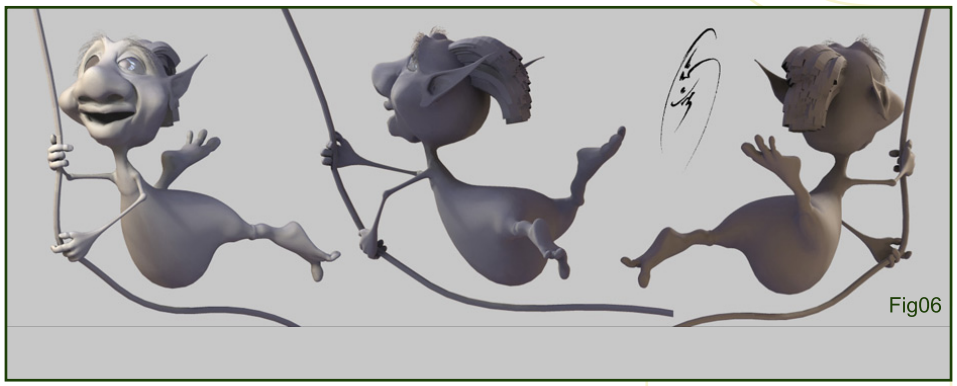
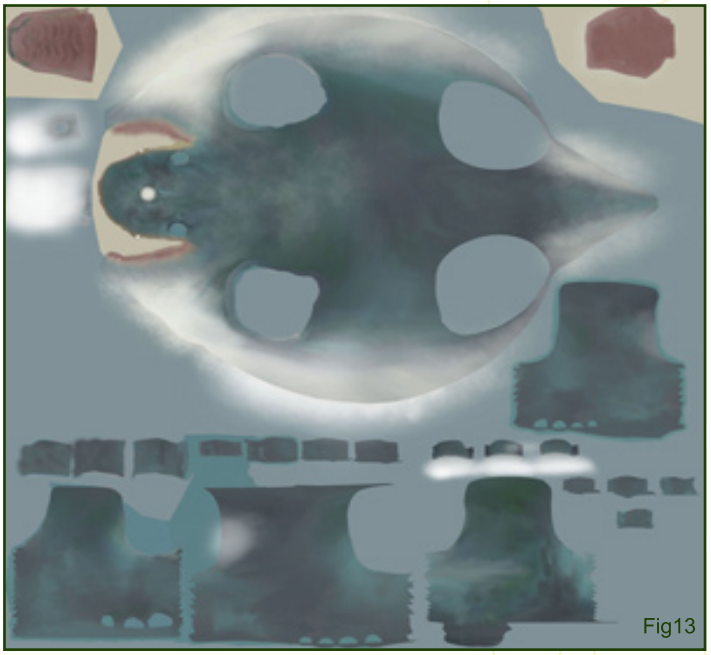

Fig06


Fig08


Fig10

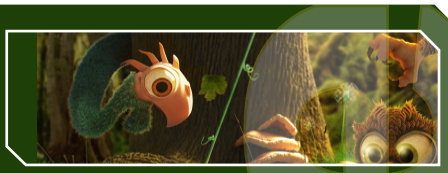

Fig13

GREG is the powerful tiny giant. He is modelled in Maya, detailed and coloured in Zbrush. Greg's expression in the scene suggests he is angry towards the mother bird Puhu and is trying to protect his friends Nosey and Freckle from her (Fig11 & 12). You can see the texture for Greg in Fig13.


Fig12


Fig11


Fig12



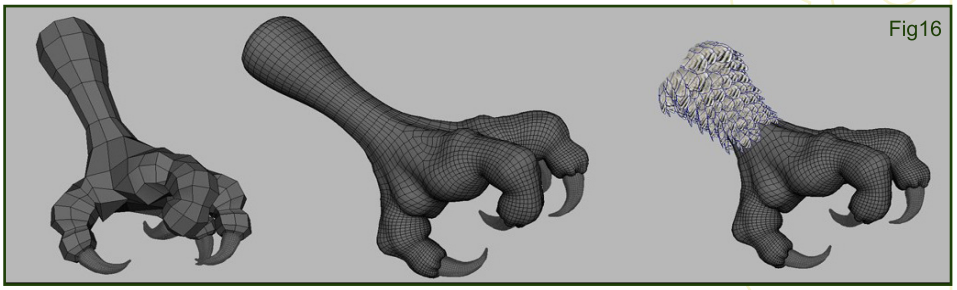
PUHU is a funny and cute looking bird but beware as it could be very dangerous while protecting it's baby. This is the baby Puhu and it was difficult to texture as I used a feather on a plane and then duplicated them one by one. This was the most time consuming part of the image (Fig14).


Fig14

THE NEST is made with lots of different sized cylinders (paint effects) and there is ramp texture on them so with a correct light it seems good (Fig15).


Fig15

CLAW Mother Puhu bird's claw. The bird is angry towards the characters that are close to the nest where the baby bird is sitting. The claw shows how angry the mother is. In the scene the mother bird is out of the scene, only her claw can be seen (Fig16).


Fig16

SIMURG' My finance and I both graduated from The Marmara University Fine Art Faculty. We had an education on Traditional Turkish Arts and myths so Simurg came out of those myths. Simurg, called Anka or Zumrud-i Anka by Ottomans, is supposed to bring ''good luck''. This bird, believed to be living behind Kaf mountain (a mythical mountain), is pictured as having a large body, multicoloured magnificent tail and strong claws. It is supposed to be strong and rapacious so that it can struggle with

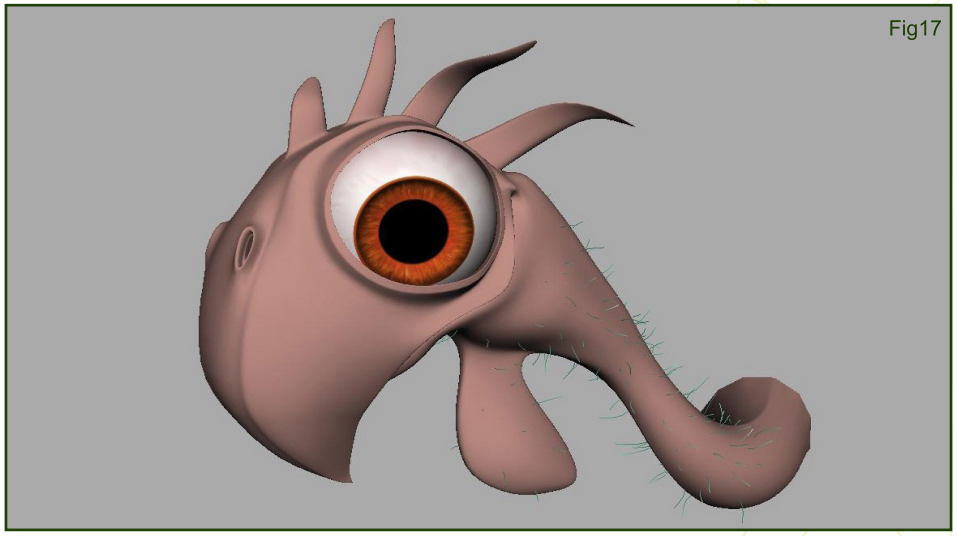
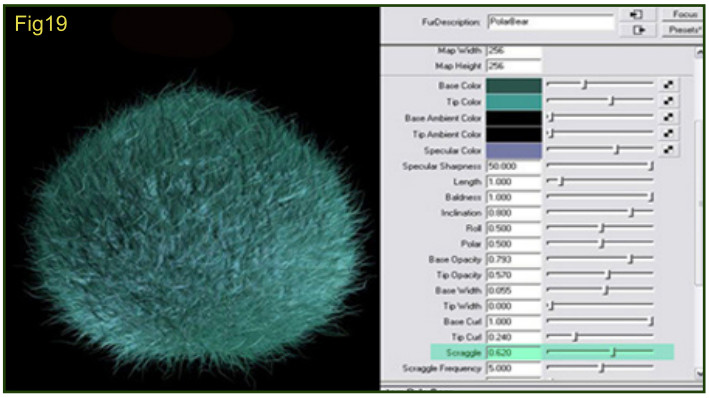

Fig17


Fig18

''Ejder''. Simurg is a Persian word composed of two words 'Si' and 'Murg' meaning respectively thirty and bird which probably indicates that it carries the features of thirty different birds. It is also believed that Simurg is created from fire and the sun and it can also speak like a human. Although Simurg was supposed to be a multi-coloured bird, it was also imagined to be green, hence the name Zumrud-i Anka (emerald-Anka). Utilizing this myth, I therefore created this funny stylized Simurg. The untextured type can be seen in Fig17 & Fig18. The settings for Simurg's fur can be seen in (Fig19). Fig20 is the textured Simurg. For the texture, Maya fur was used.





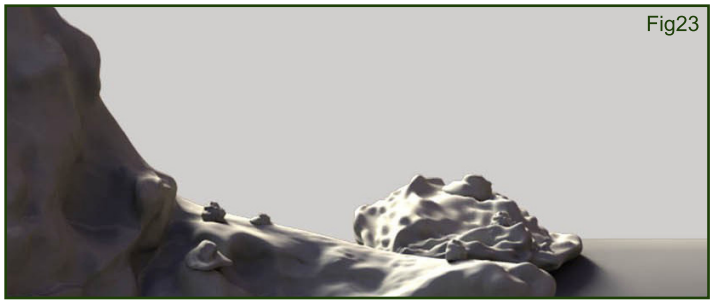
The Scenery

The Tree, Mushrooms, Rocks, Stones and Plants were all modelled in Maya and detailed in ZBrush. The scene was very important to show the proportions of the characters. At first I researched the trees and barks, then in Photoshop I made bark brushes and with them the texture's done more quickly. In ZBrush, The tree's detail comes from the displacement map. Textures of mushrooms were prepared manually in Photoshop (Fig21 & Fig22). Paint effects / GrassWindWide brush was used for the Grass, although I changed the colours. The Rocks and Stones are modelled in low poly then detailed in Zbrush (Fig23).

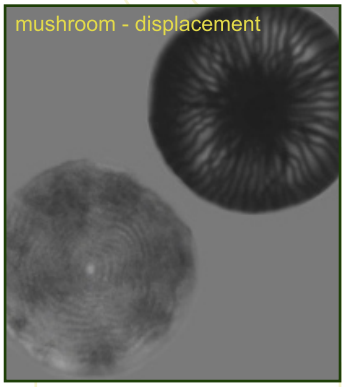


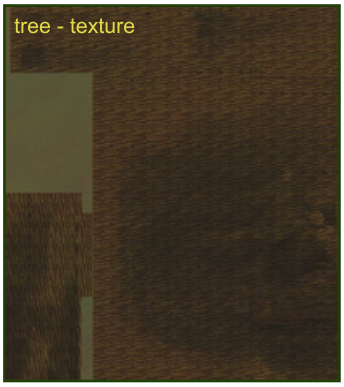


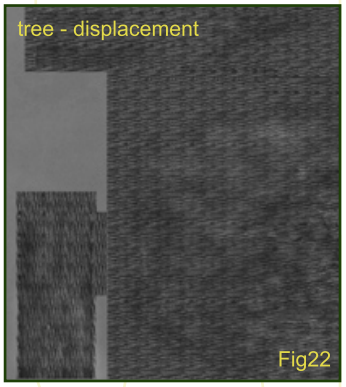












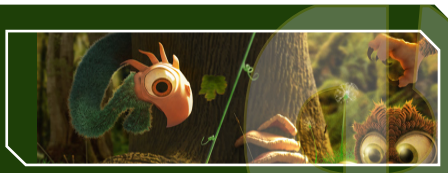
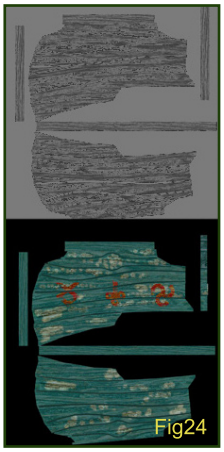
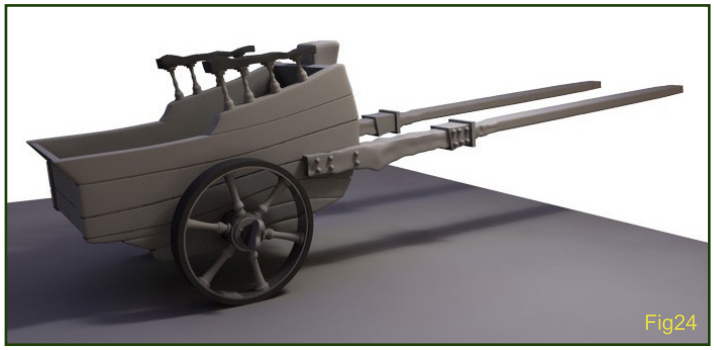


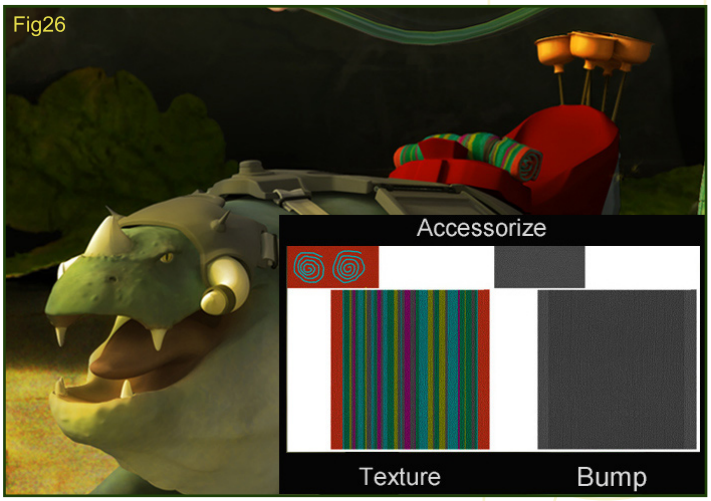

Fig24

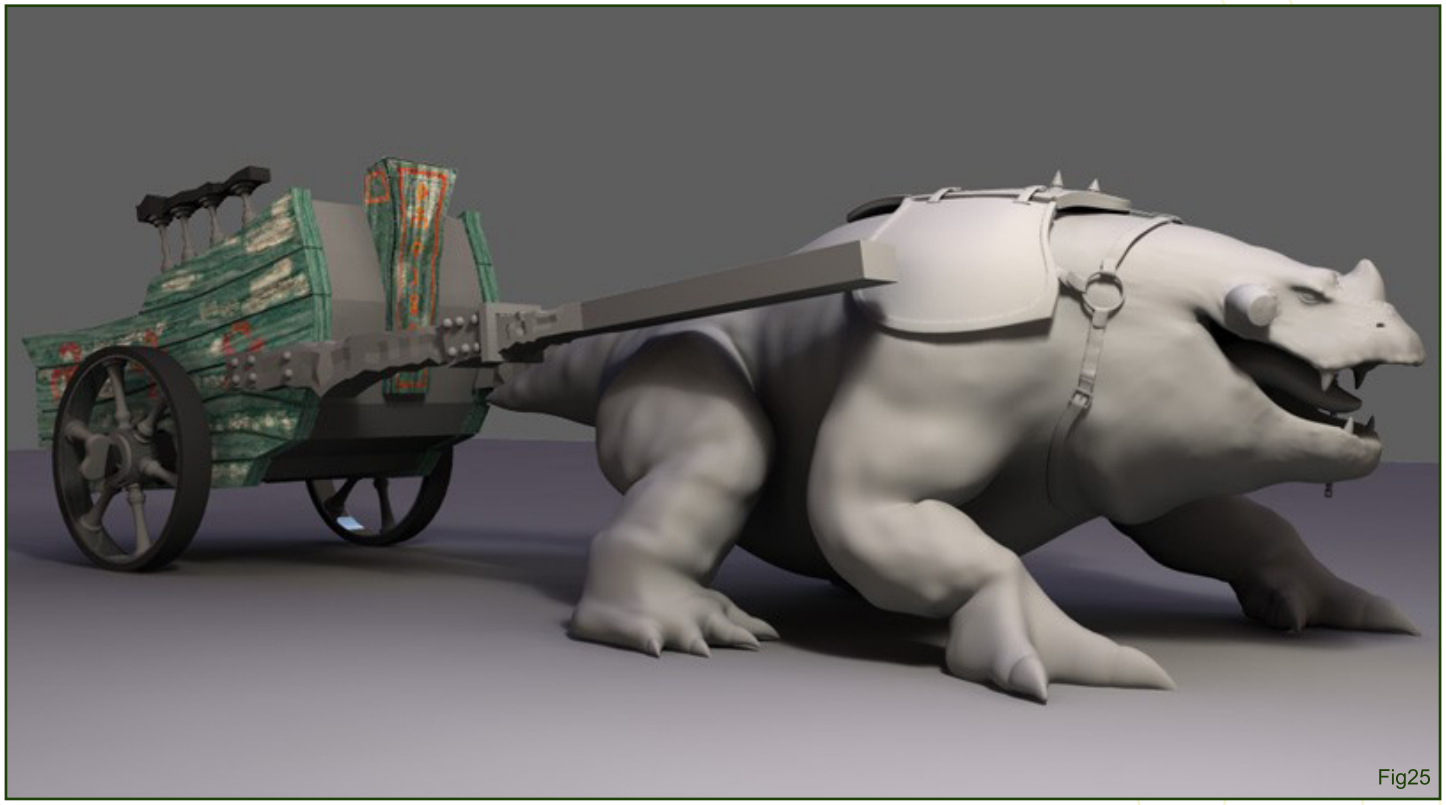

Fig24

The Carriage

The carriage and the sack were Modelled in Maya. The Sack has no texture (Fig24 & Fig25). The texture for the accessories which are on 'Greg' were created in Photoshop (Fig26).


Fig24




Fig25

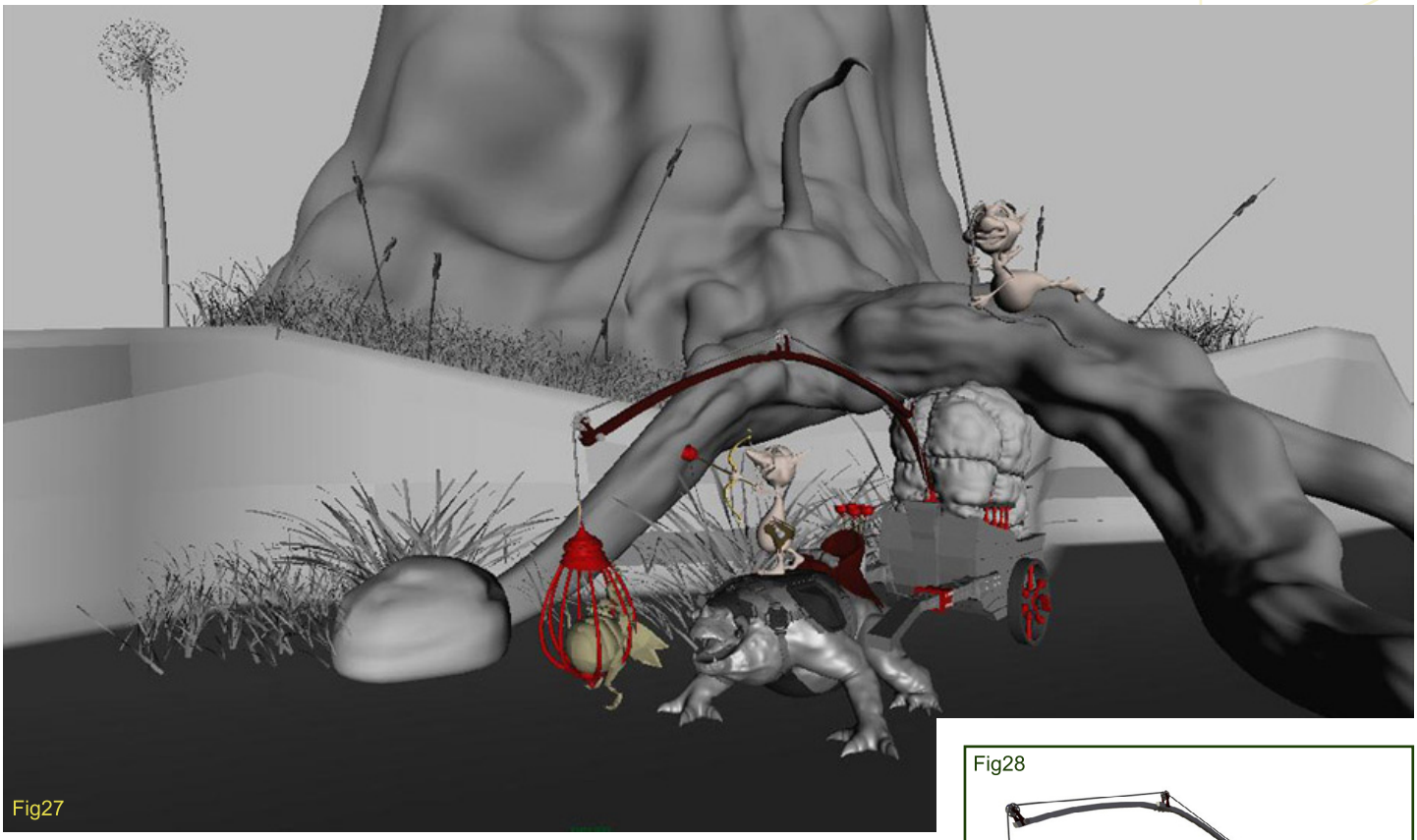


Fig27



Fig28

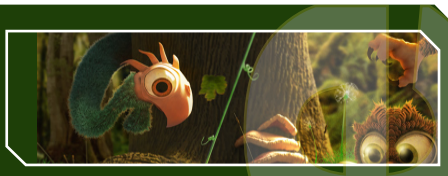
LIGHTING & COMPOSITING

Then I added the lighting effects and composited the models in the scene. Because of the high polygon count, I had to render the models in smaller groups from the same camera angle, and then composite them into the scene afterwards.
Group One : The tree with mushrooms on it and the grass'. Group Two : The characters; Nosey, Freckle, Greg with the carriage, sack and the Fire Fly in the lamp. Group Three : The rock, stones and plants on the left side of the foreground. Group Four : The baby Puhu in it's nest and the mother Puhu's claw on top of the left sight. Group Five : Simurg.

I lit the groups with 2 spot lights with a light fog effect, 1 area light and a HDRI map. Fig27 shows a general look to the composition, Whilst Fig28 is a test render. Fig28 is another test with the characters and the effects turned on.



Fig29



Compositing steps

The foreground is very important to give a depth of the field to the image. In the front of the scene is a blur effect like if photography techniques had been used (Fig30 & Fig31). The background image had to be well contrasted & as well-adjusted to the scene as possible. This is the scene with background; Fig32. The Simurg also now in the scene. Freckle on the vine was supposed to have a motion blur added but I unfortunately ran out of time as was unable to complete it. I also would have liked more time to work on the foreground on the right side of the scene and also the ground needs to be worked much more (Fig33).


Fig30


Fig32


Fig31


Fig33

Now everything is finished. Here are detailed views of the scene (Fig34 - 38). And, here is the final image (Fig39). Hope you enjoy the making of. Welcome to all questions and opinions. Thanks.

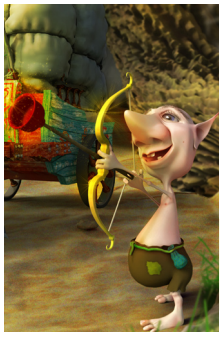
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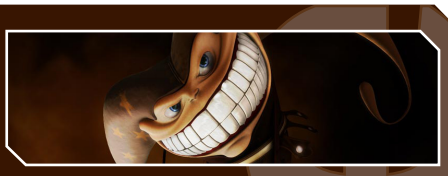


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Hi, my name is Jonathan Simard. I'm a 3D animator working at Beenox, and as modeller at home. I have been working on the character for a while and in this making of I show you 'step by step' how to create my latest character called ''white teeth''. Thanks to Zoopublishing for using the image as the Cover of their August Issue of 3DCreative Magazine! Really! my first cover!



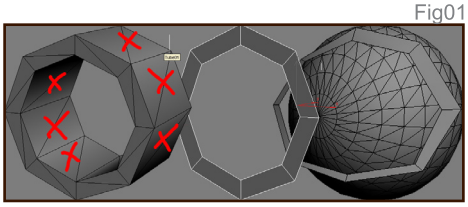
The making of White Teeth

This character, was mostlyimprovised. I developed it without knowing how it was going to look at the end. I started drawing the face and continued to develop it. The basic idea was to make a character with teeth bigger than the head. This 'making of', is a basic overview, with some more important parts in slightly more detail.

The Eyes

I always start modelling with a tube for the eyes (Fig01). I delete nearly all faces except the front faces of the tube. After I convert the mesh to an editable poly, I create a sphere and fit the tube shape around it.

Fig01



The Nose

I have developed a little technique for creating noses. All of the noses I model begin with this method. Note that I have symmetry turned on, so that I only have to model one side of the face. The Fig02 images show how the nose was created using this method.

1. I begin to edge extrude the side of the nose.
2. I start to extrude to the right.
3. After I'm doing a box like shape for closing and continue edege extruding.
4. I select the edge along the red line # 2 and extrude it inside for the nostril and I'm adding a line #1 for more detail.
5. I connect the two edges.
6. I add more detail if I need it.
7. Final result with no smooth.
8. Final result with smooth.

Fig02 - 1

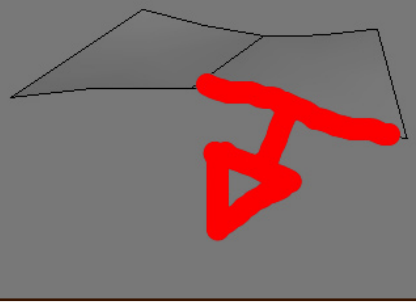


Fig02 - 2

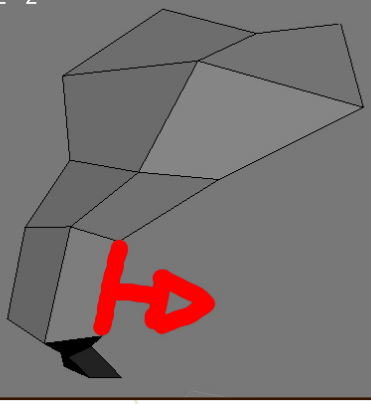


Fig02 - 3

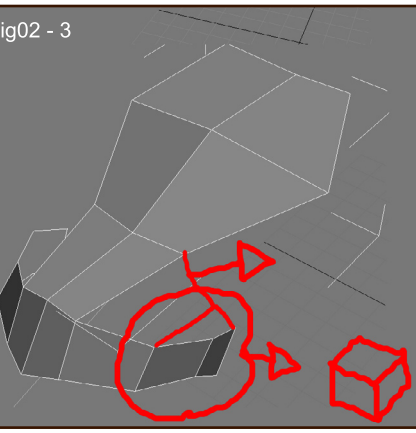


Fig02 - 4

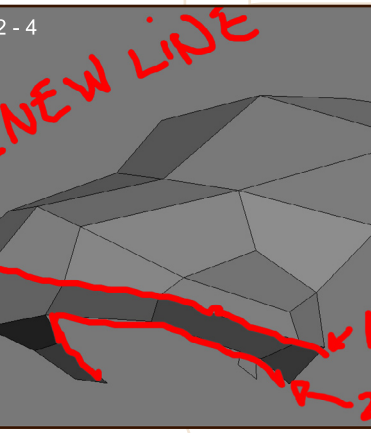


Fig02 - 5

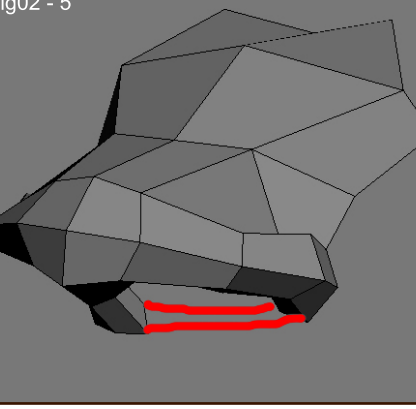


Fig02 - 6

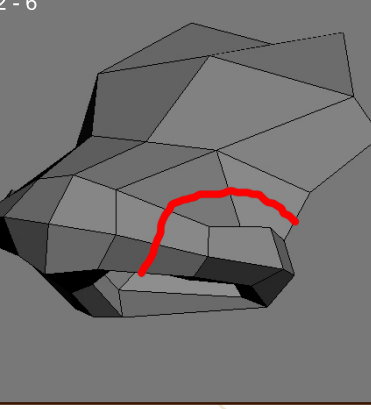


Fig02 - 7

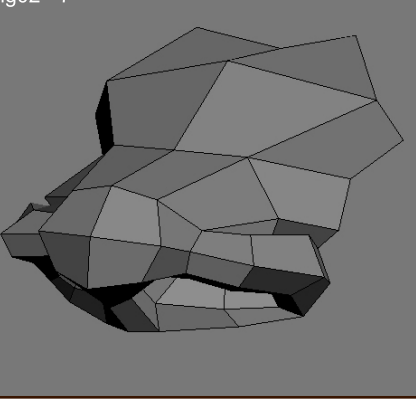
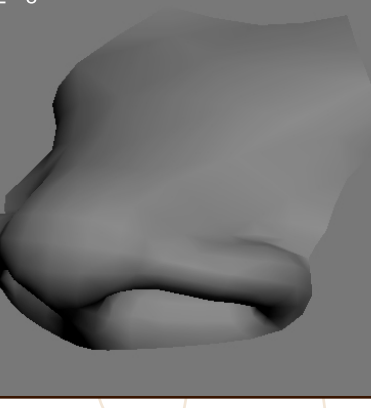
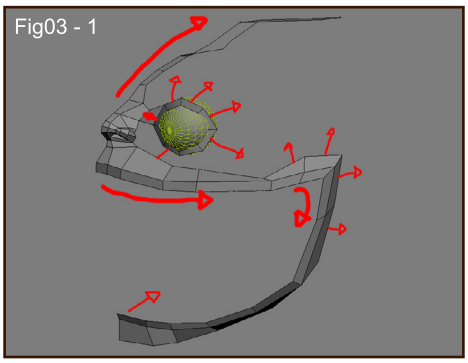


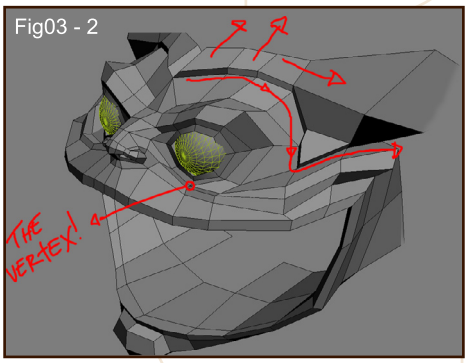
Fig02 - 8

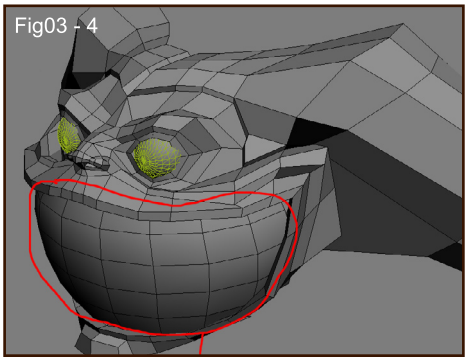


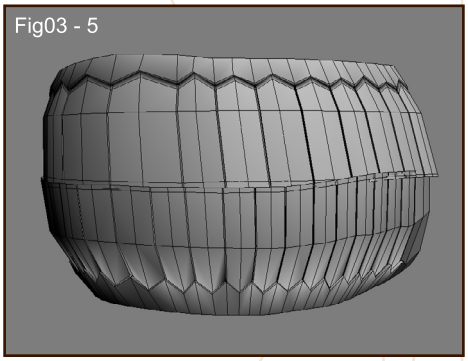
Welding Noses and Eyes

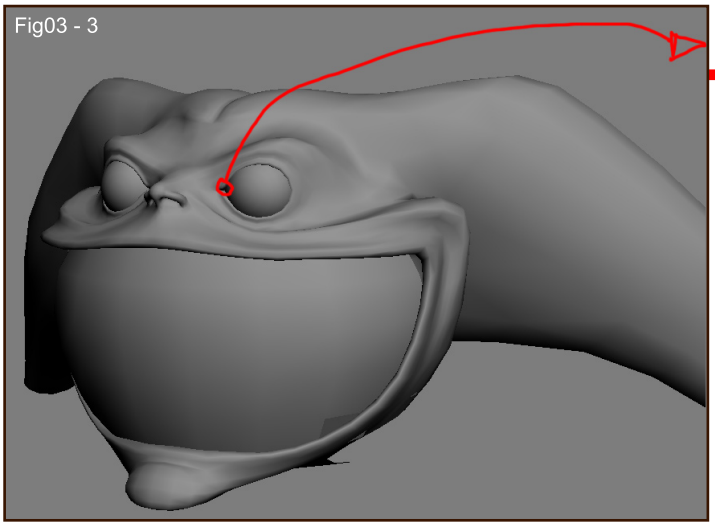
Now we have the eyes and the nose, its time to attach them together. I do this by extruding edges of lines of the faces until the shape I require is created. The importance of each line depends on the design of the character. But overall, I try to follow the basic muscle shapes of the face. This way, you get a cleaner model which is much nicer to animate. Once I have all the important lines of the head, I can start to fill in the empty spaces (Fig03 - 1 & Fig03 - 2). I also have one vertex (which I have called 'the vertex') which I have used in the creation of my face. It has 5 edges connecting to it and it is always located above the eye near the cheekbone (check Fig03 - 2 for a better example). Of course, there are other 5 edge vertices, but this particular one is important for this type of modeling because it's connecting all the parts in a region where we often get lost. As you can see on Fig03 - 1 & Fig03 - 2, all the faces (edges) follow important lines. I also have a place holder for the teeth (Fig03 - 3). It's usefull to be able to see the final result here, and also makes it easier to model the teeth. For the rest, just look at Fig03 - 5 for the final teeth shape. Another advantage to making a teeth place holder is that it gives you somewhere to start modeling from. So with the place holder, I add lines too follow where the teeth will be and then separate them. After that, the rest consists of extruding teeth where the lines are, and then the same technique for the gums.

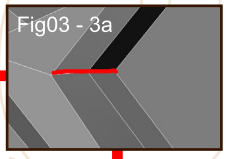


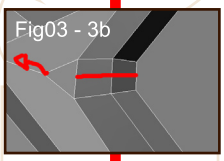


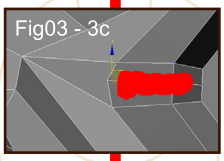


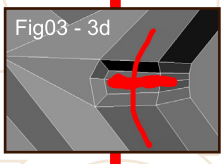


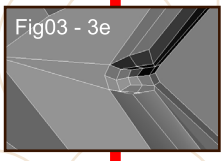




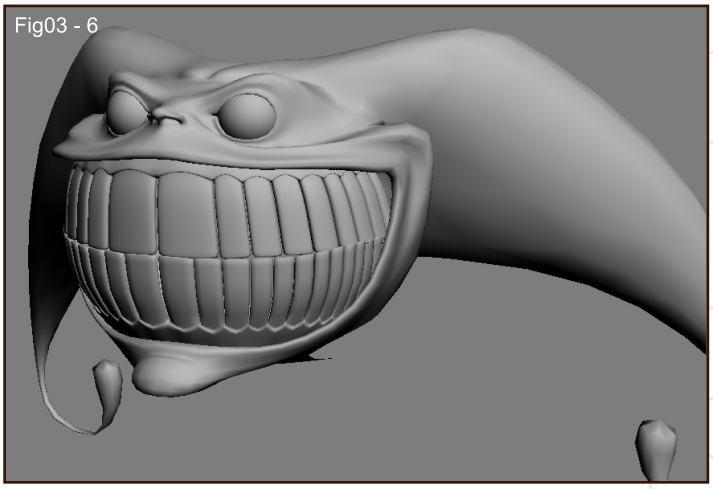












Inner Corner of the Eyes

I always wanted to know how to model this ''inner corner'' without adding lots of useless edges

Fig03-3a. Chamfer (A) weld the point to the nearest one
Fig03-3b. cut the 2 edges
Fig03-3c. Select the faces & inset them
Fig03-3d - f. Add required details.

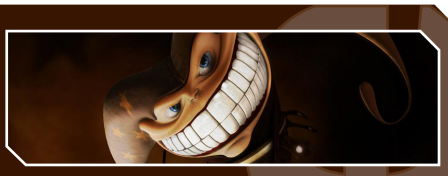


Fig04 - 1

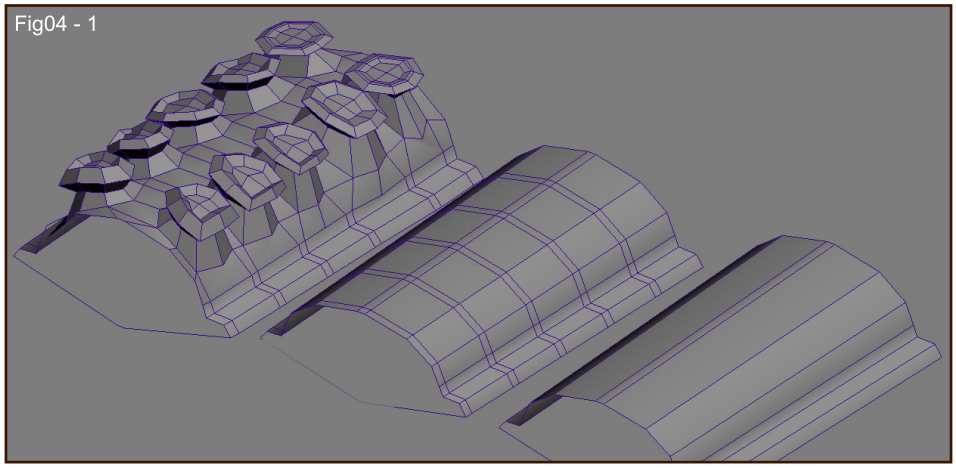


Fig04 - 2

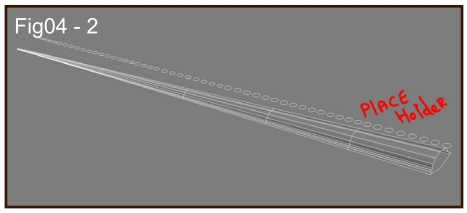
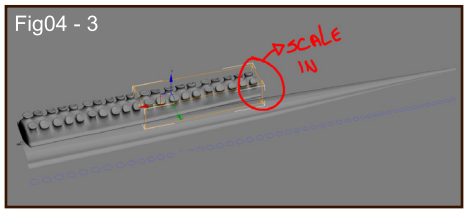


Fig04 - 3



The Tentacles

Now for the tentacles. They look like they are hard to model, but i'll show you step by step to make it simpler. Fig04 shows the entire step for the modelling of the Tentacles. Firstly, I model the entire tentacle in one go, just a cross section which I can replicate to make the entire length. The important thing to note is that before I start copy and paste the sections, I model a low poly tentacle, just for a place holder, with a small circle (Images 4.2). This makes it easier to get an overview of the final model and where to place all the parts. In Max I used the fdd box for scaling tentacles. I'm not using bones, because I don't think It will create a nice curve, so I'm using instead a spine and applying a path deform on the tentacle that will follow the spine. The rest of the modeling it's quite easy.

Fig04 - 4

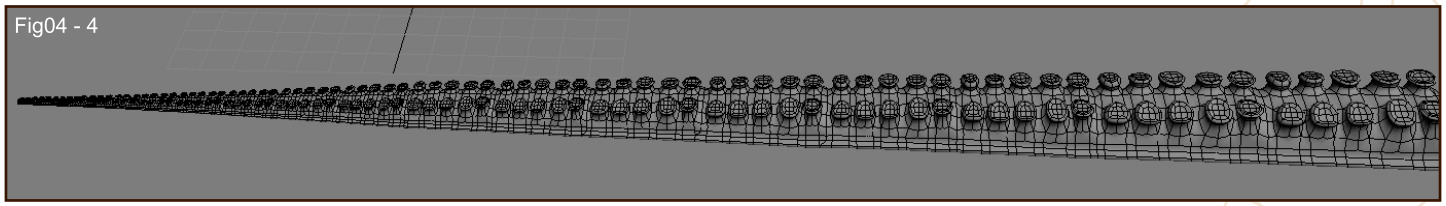
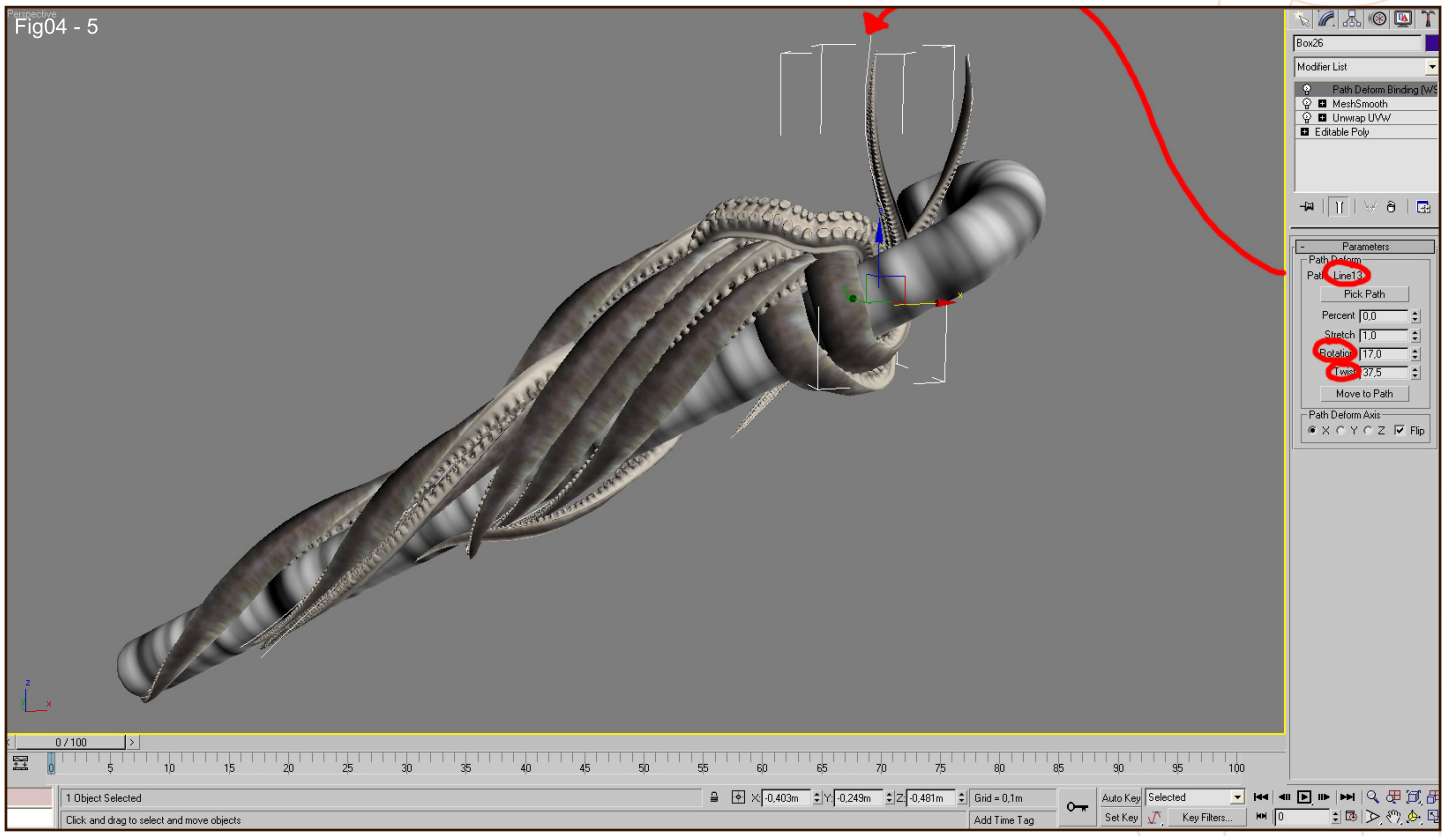


Fig04 - 5



Colouring

My renders don't always look as good as I would like, but this is a way to enhance it to make it look superb! Firstly, my lighting setup is really simple, just 3 lights rendered with Mental Ray. I also render an ambient occlusion pass (Fig05). You can achieve this by adding a mental ray shader in the material editor and then add an Ambient / Reflective Occlusion (base) in the surface slot. This one is very important, because It can be used to fake radiosity. I also render the 'Z-Depth pass' (in render scene dialog, render elements panel, click on 'add' and select Z-Depth), and some uniform color (shader with self illumination at 100) to allow easier area selection in Photoshop (Fig06). When all my rendering works is done I can start working in Photoshop.

Fig 05

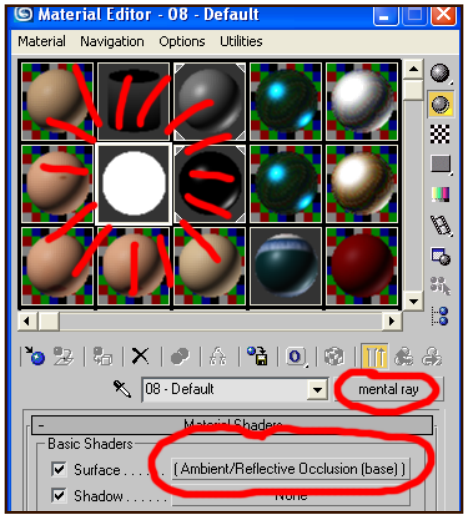



Fig 07-1


Fig 07-2


Fig 07-3


Fig 07-6


Fig 07-5

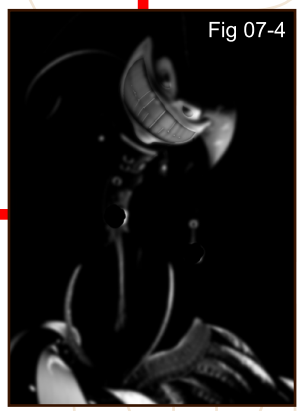
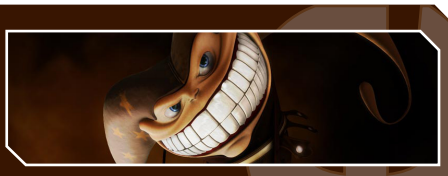

Fig 07-4


Fig 07-7

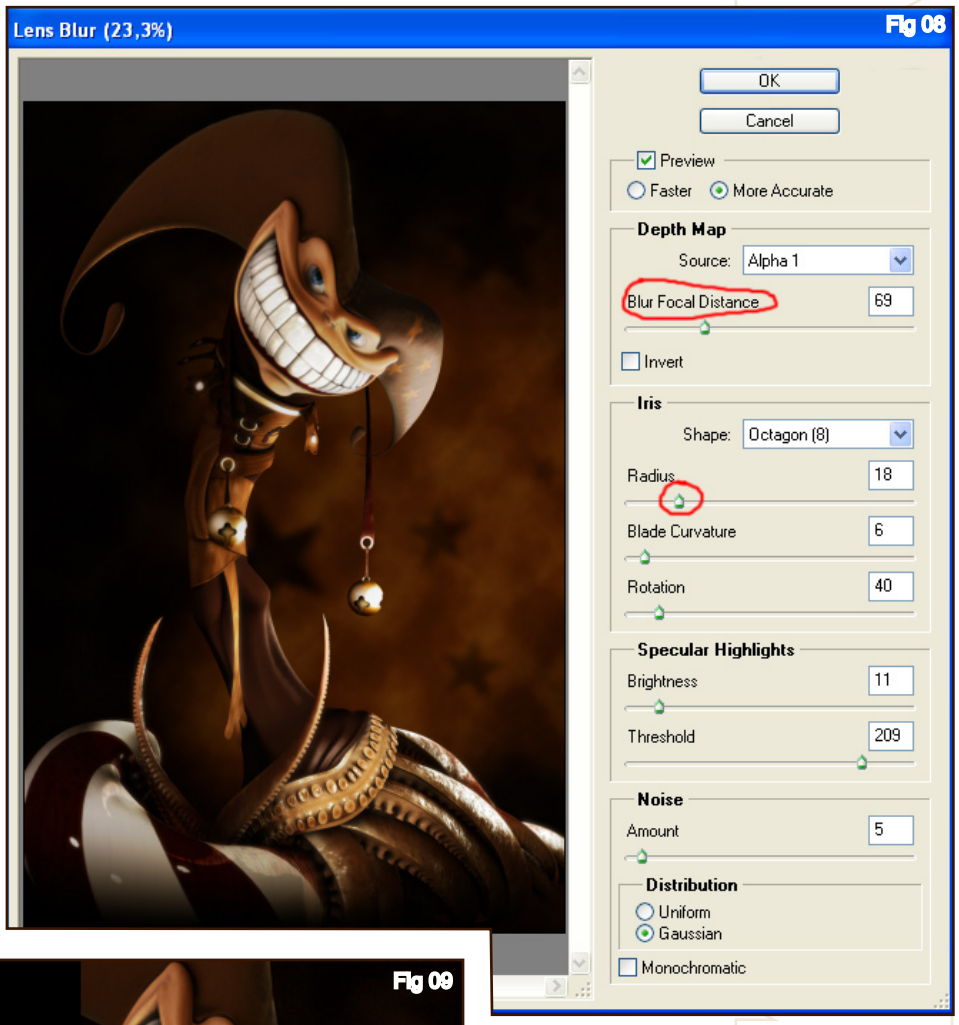
Fig 07-8

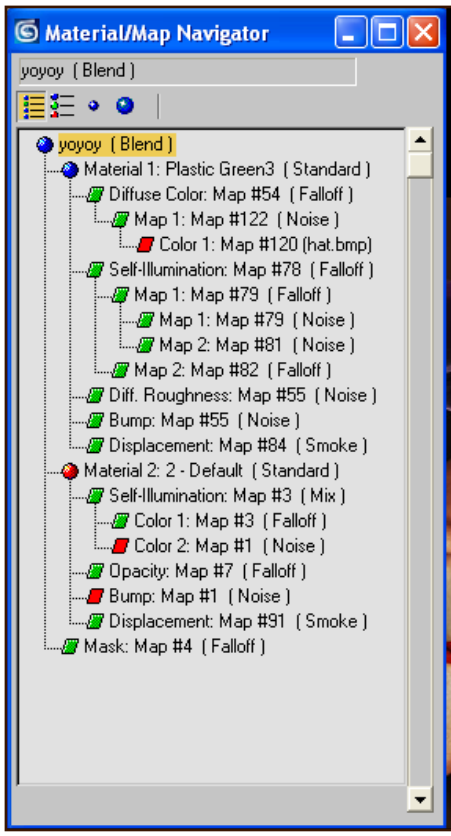

Fig 07-9


Fig 06

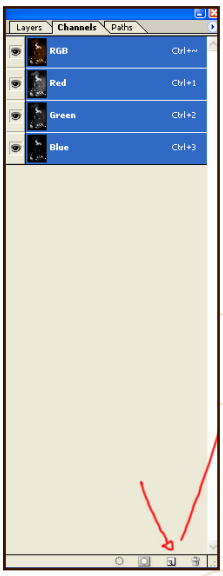


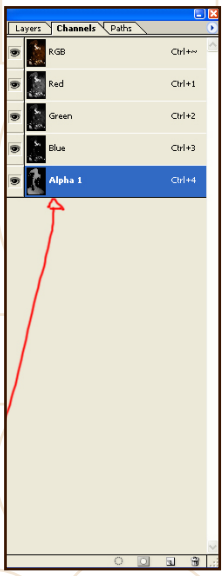
Once in Photoshop, I always seem to change the saturation and brightness / contrast of the first render pass (Fig07-1). With the help of the uniform colour pass for selection (Fig06), I can select different parts of the picture and adjust them. I added a layer and set the ambient occlusion pass to 'multiply' (Fig07-2) you can see the result in Fig07-3. After that, I need more contrast on the overall picture with the lighting. I make a copy of the original render and paste it on the top of the layer. I adjust the saturation to -100 to get a black and white picture. Then I adjust the brightness and contrast and I use the gaussian blur filter (Fig07-4) and I use the linear dodge tool on it. You can see the final result in Fig07-5. After that, I begin working on the background (Fig07-6 and Fig07-7) and I try different layer styles. To uniform all the color, I use a full layer color (Fig07-8) and experiment with different layer styles. You can see the result in Fig07-9.





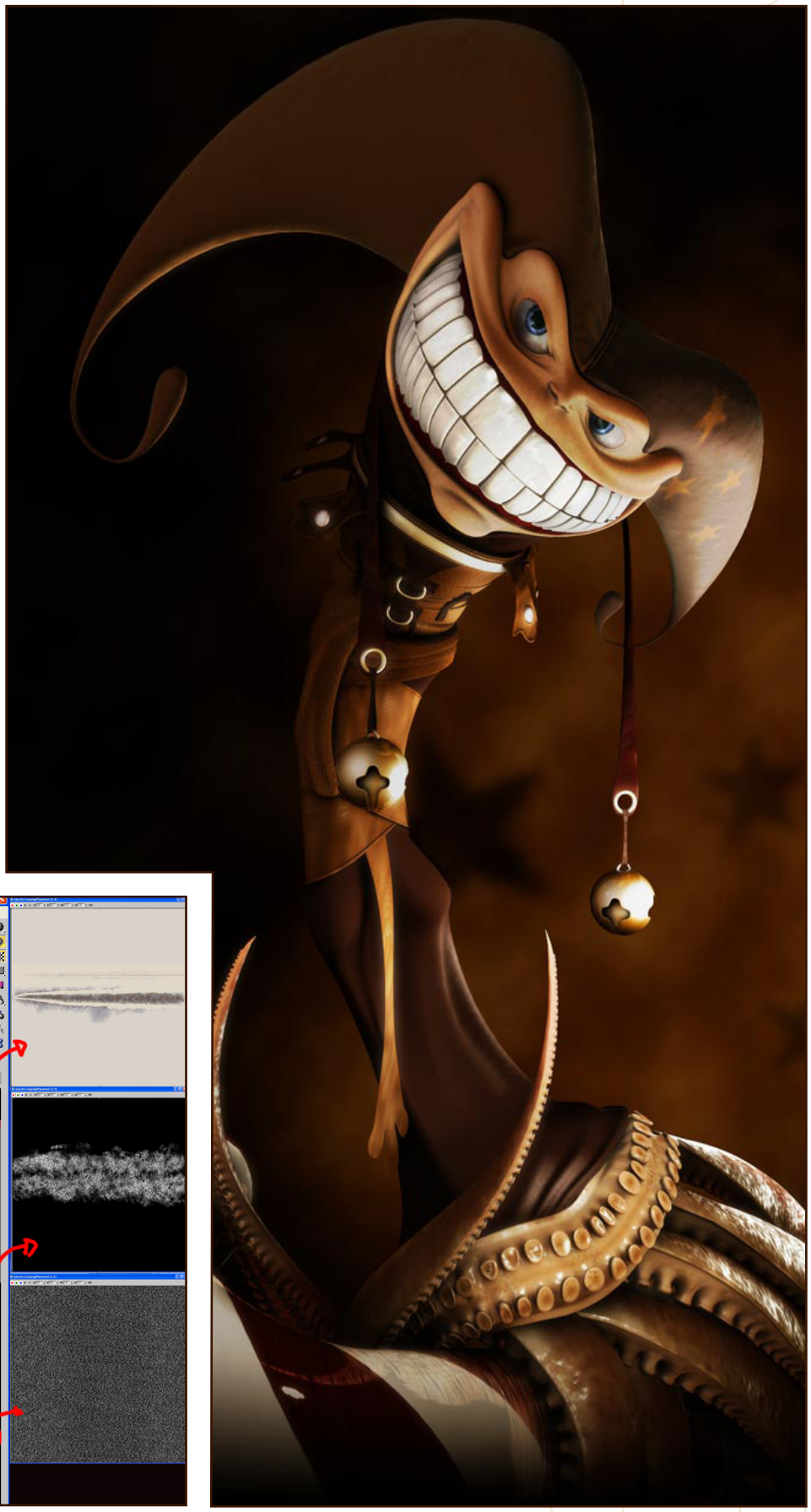






Finally

At the very end, you can use your z-depth pass. There is a way in Photoshop to add a depth of field very quickly. You just have to add a new alpha layer in the channel and copy-paste your z-depth pass. Return to your picture and click on the filter rollout, click on blur and then lens blur (Fig08). The most important setting of this tool is the blur focal distance and radius. The blur focal distance will determine where you want the blur, and the radius is the amount of blur you want. I not going to go into detail about thshader, as I'm still just experimenting with it. Here is a tip I can share however, a way to make a velvet texture (Fig09). It's the same shader I used for Miss Burton's Hat (another character of mine). The rest of it is a basic shader in Mental Ray, but for the skin and tentacles I had to tweak the setting a bit more (Fig10 & Fig11). Thanks for reading.



Jonathan Simard

You can contact this artist at
capitaine_star@hotmail.com

Fig 10

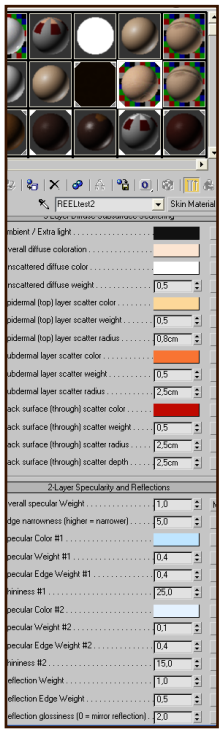
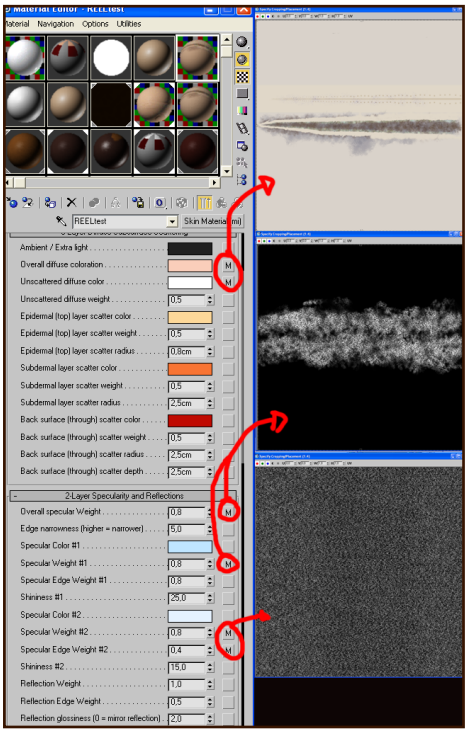


Fig 11



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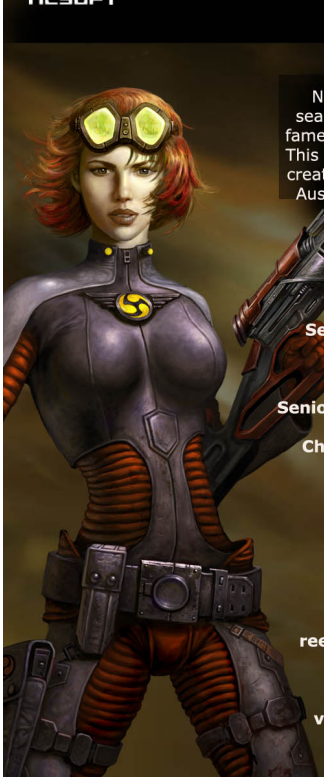
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Issue 009 May 06

Modeling the Head

Issue 010 June 06

Modeling the Torso

Issue 011 July 06

Modeling the Arms & Legs

Issue 012 August 06

Modeling the Clothing & Hair

Issue 013 September 06

Modeling the Armour

Issue 014 October 06

Mapping & Unwrapping

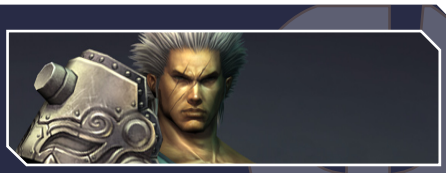
Issue 015 November 06

Texturing the Skin & Body

Issue 016 December 06

Texturing the Armour & Clothing

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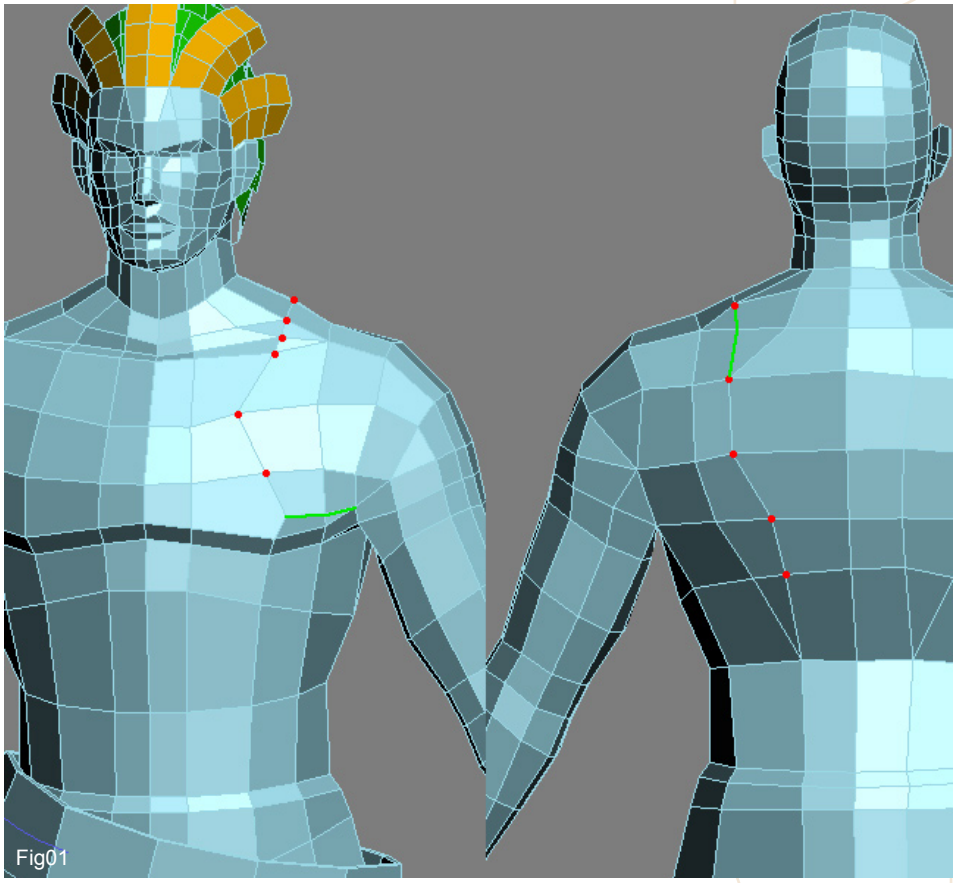


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Modelling the Armour

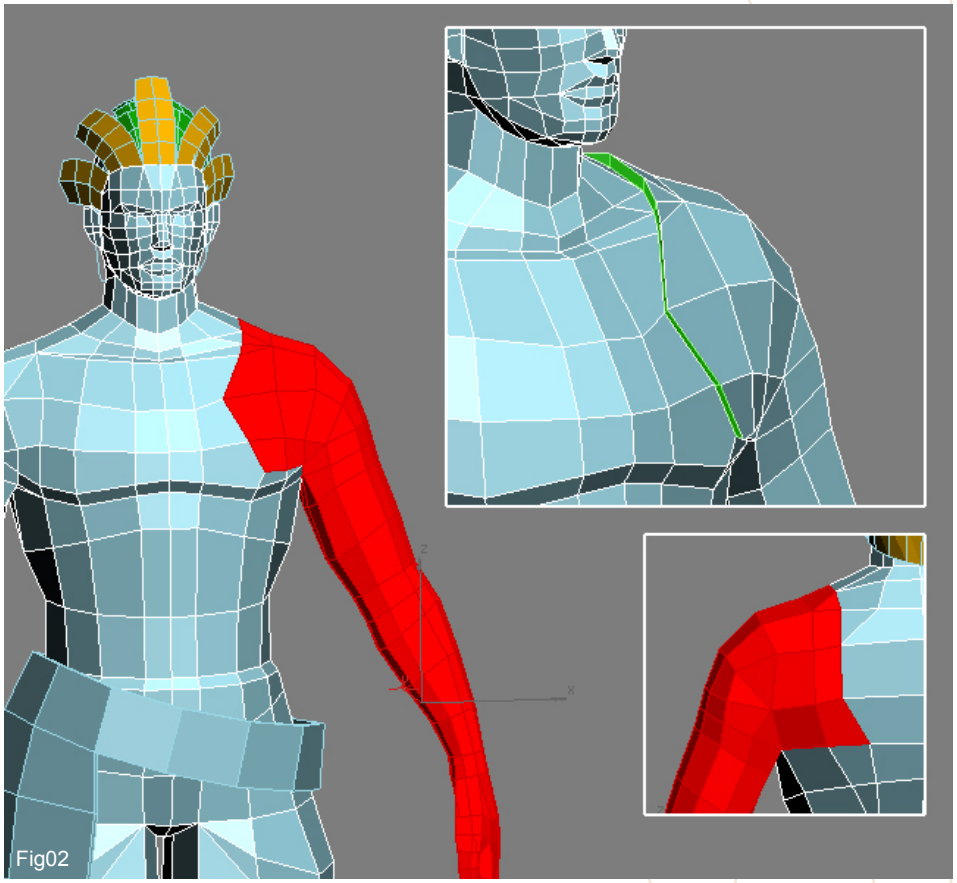
Introduction:

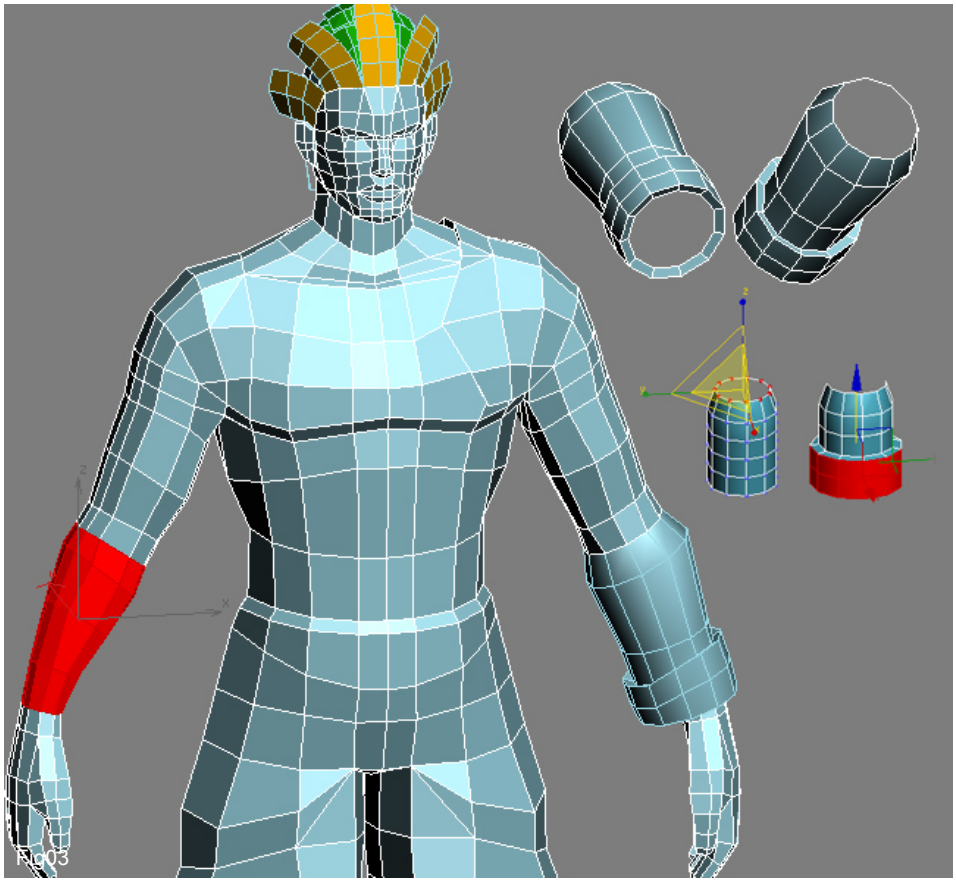
Welcome to the fifth instalment in the series which will provide a step by step guide to building a low poly character based upon a model by Seong-Wha Jeong. Last month saw us adding clothing and hair and now we reach the last phase in the modelling section which will cover giving our warrior some armour to wear.

1. If you have followed the previous tutorials then open the last file which saw us make the belt for his waist. The first thing we are going to do now is re-position some of the verts on his left arm. In Fig01 you will see some of the existing verts (highlighted in red) that have been moved into different positions on the mesh. The green line across the front and back sections represent additional cuts. When you have reached this stage it is time to create the actual armour for the arm.


Fig01

2. The next step is to select the poly's that make up the whole of the armour section (seen in red in Fig02). What I do then is detach these, universally scale them slightly and then re-position them central to the shoulder edge and then re-attach them to the main mesh. You can then create a line of poly's to join them back up thus adding volume to the armour (see green poly's in inset).


Fig02


Fig03

3. Now onto the forearm section which will be initially made from a separate cylinder. First delete the poly's highlighted in red but on the opposite side where the armour is located (Fig 03). Now create an eleven sided cylinder and then convert it to an editable poly deleting the top and bottom faces. Scale the top row of verts and scale them in somewhat and then bevel the two bottom rows of poly's to form the shape seen on the right. Now place the cylinder between the elbow and wrist and scale it to fit as closely as possible to the elbow. You can then snap the arm verts to the cylinder top and then attach the two. All you need to do now is create a set of poly's around the wrist and do not worry too much if the hand is not central.

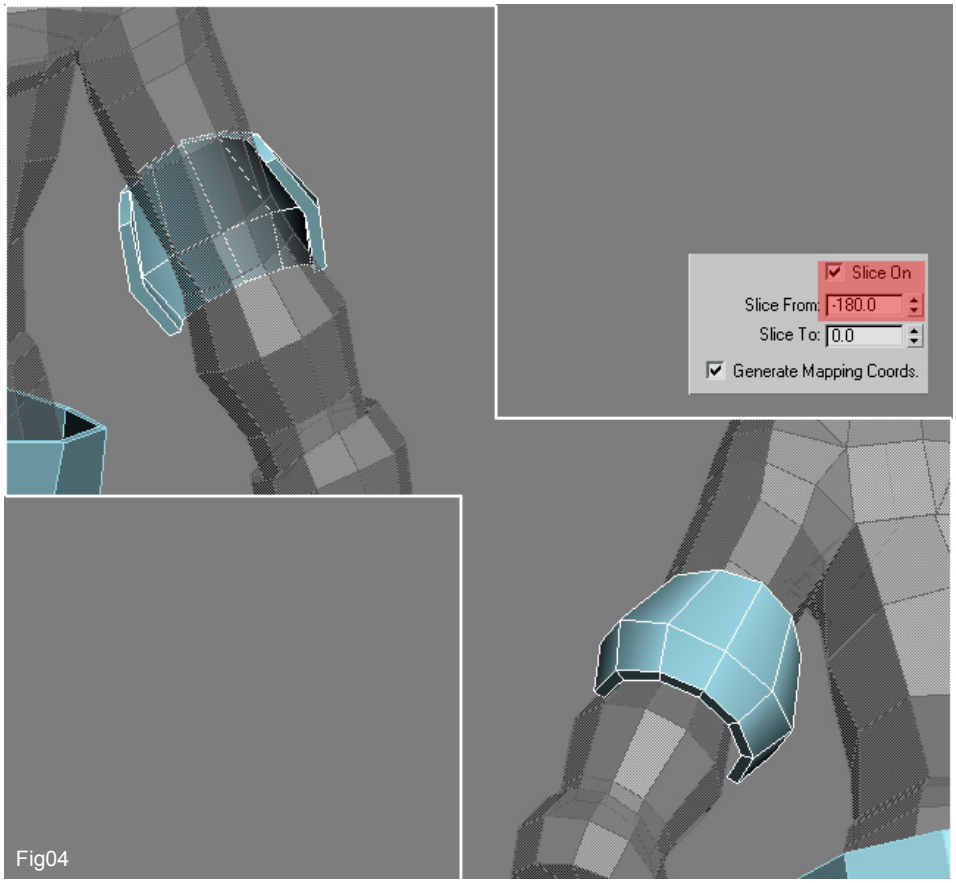
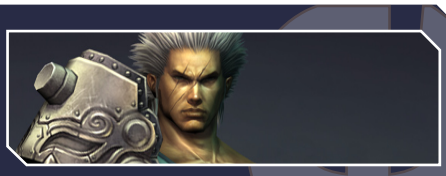


Fig04

4. Next piece to be made is the elbow guard. This we will do in a similar manner to the knee guard. Start by creating a tube making sure to add a slice of 180 degrees (Fig 04). Add one segment and a similar number of sides to those in the picture.



5. To finish off the piece extrude the middle section of poly's down as shown in Fig 05 To form the rounded front section just select and extrude the end poly's highlighted in red and then make four cuts (two on either side seen in green) from the corners. It is then just a case of pulling in the corner verts.

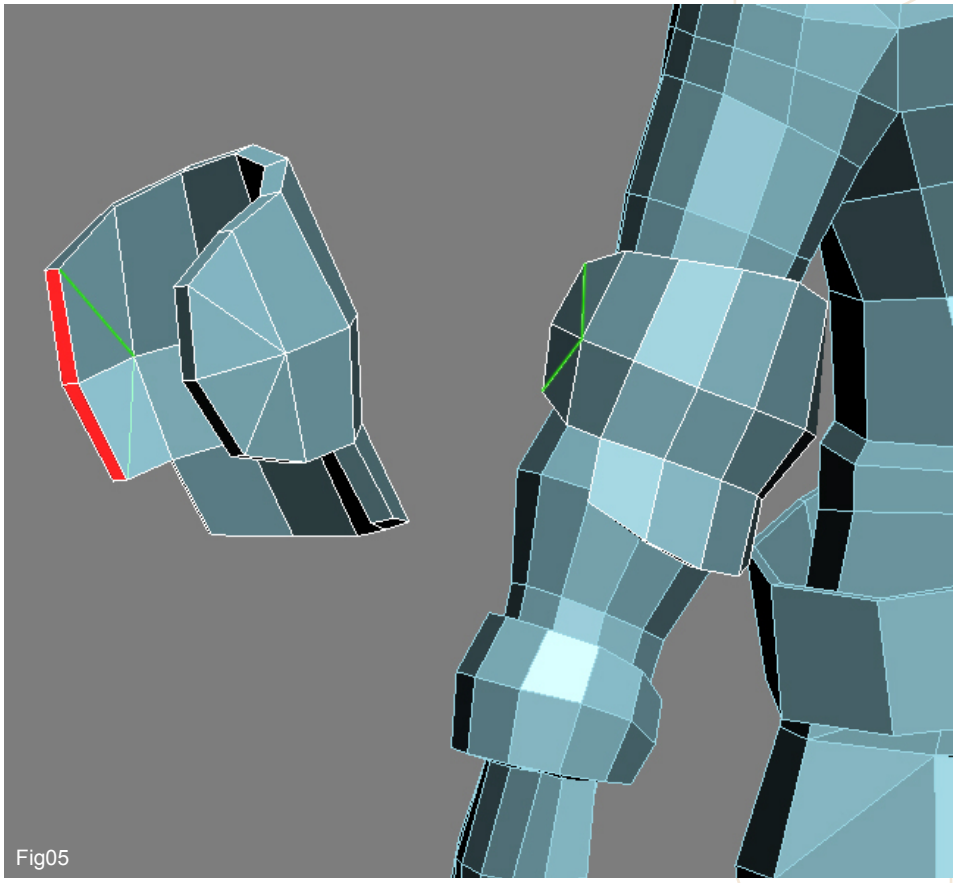


Fig05

6. Right, well we have the armour across his left arm but now we need to create a strap that wraps around his body that holds it in place. This will involve creating a spline that roughly follows the contours of his torso around which we will Loft a rectangle shape to form the strap. This first of all involves making a spline from under the Shapes tab on the control panel. Choose Line and make sure you set the Initial and Drag types to Corner (Fig 06). Start the spline at the center of the face ringed in green on the back of the model and curve it round to the front section of the armour just short of the shoulder (eight verts in this case). You will notice that I have also made a small rectangle (in orange which has the same proportion as the face from which the spline starts) and this will form the shape of the strap.

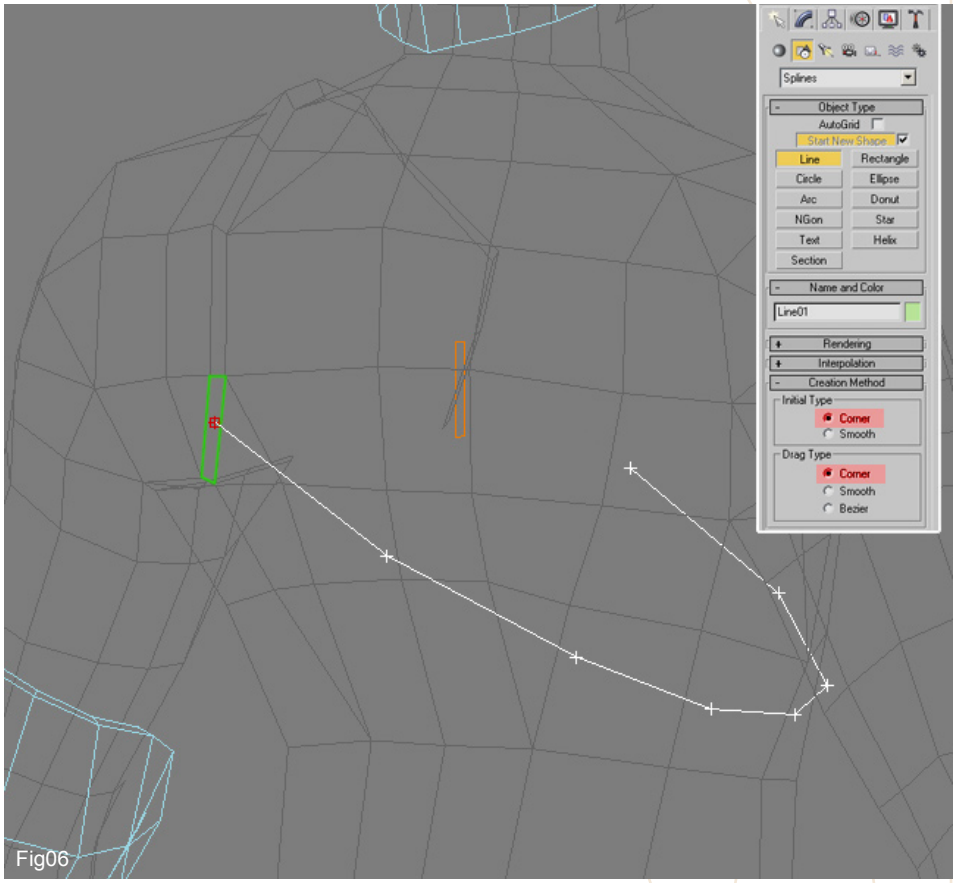


Fig06

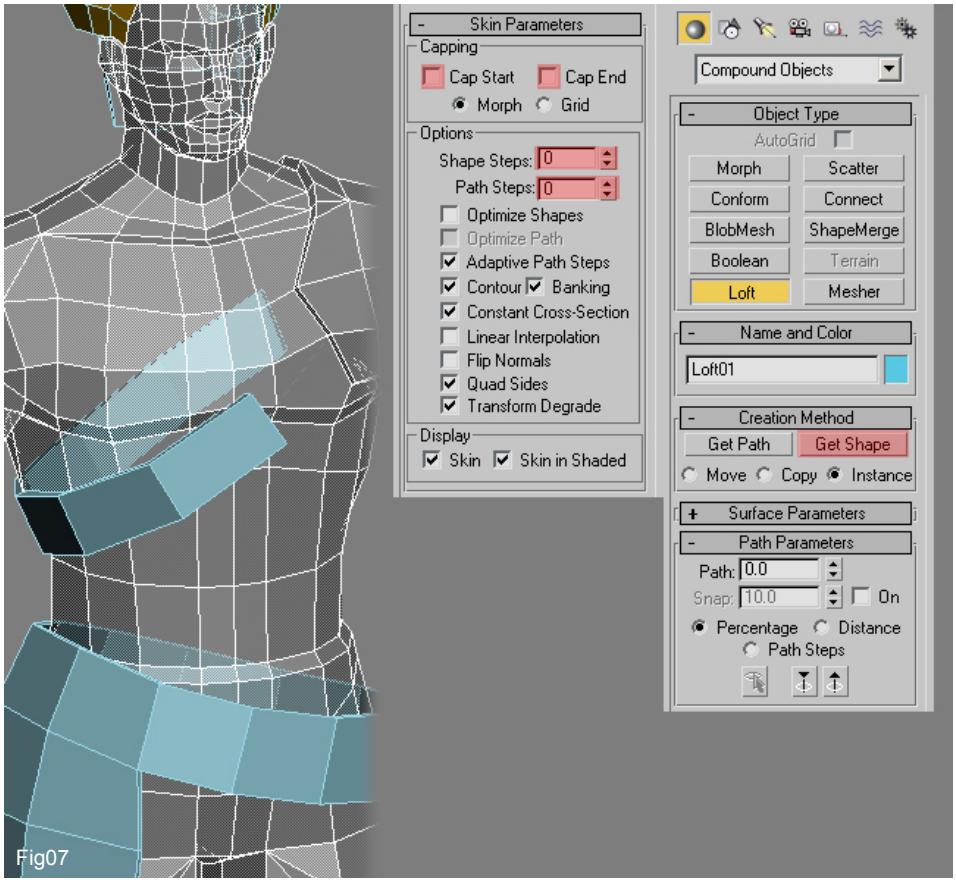
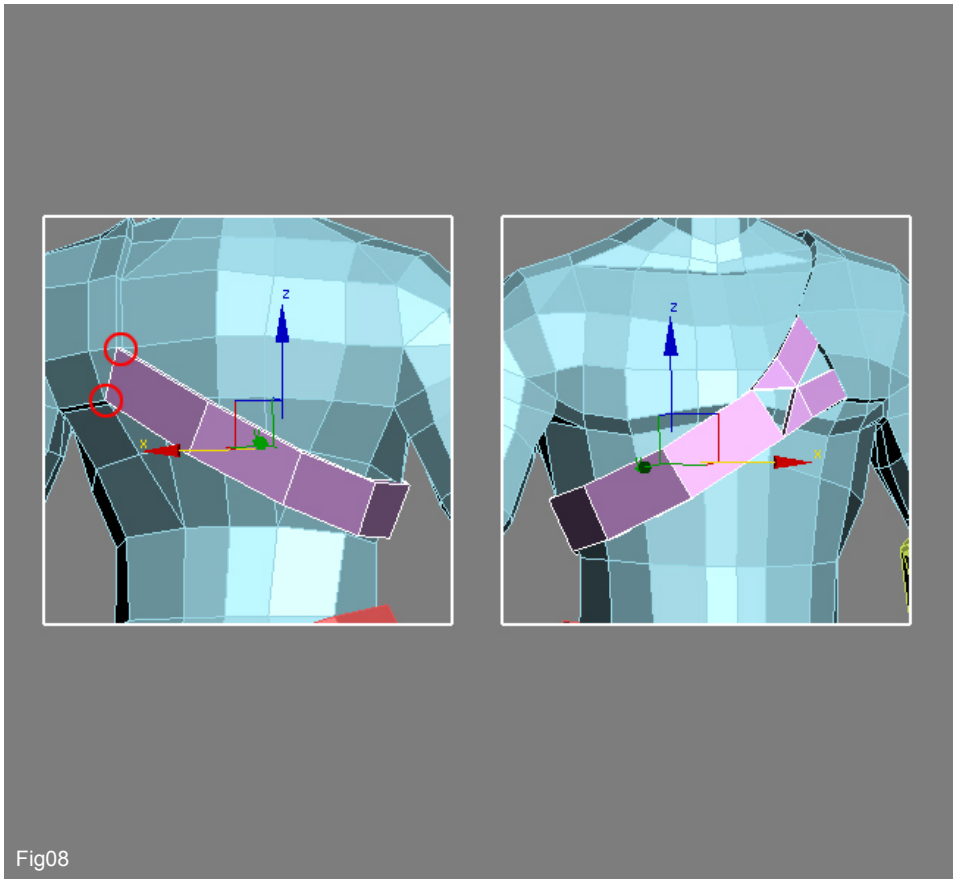
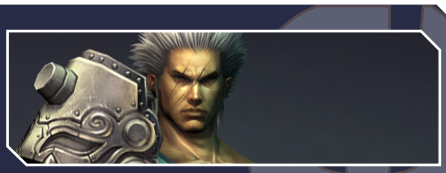


Fig07

7. Select the spline shape and under the Geometry tab and Compound Objects click on Loft and then click on Get Shape followed by the rectangle (Fig 07). Under the Skin Parameters make sure to uncheck both capping boxes and set the Shape and Path steps to zero. You should now see a rectangle stretched around our character's torso similar to the picture.


Fig08

8. All you need to do now is snap the end verts to the armour (ringed in red in Fig 08) and tweak the shape so it hugs the torso. You will notice also that I have added two smaller straps which connect it to the front section.



9. We now arrive at the final stage of the process – adding the shoulder piece. The first step is to create a shape similar to the one on the right in Fig 09 which you can do either by creating a Plane or converting a Spline. Once you have the shape apply a Shell modifier to give it some depth as seen on the left.

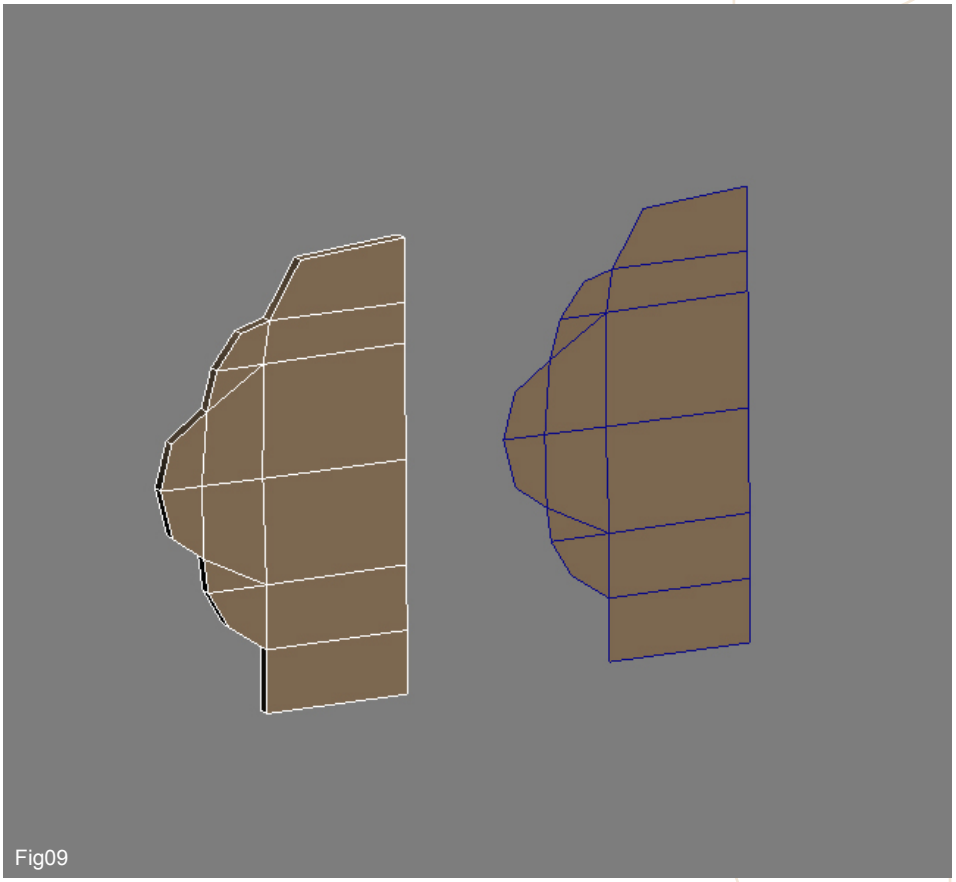


Fig09

10. Now duplicate this which you can do using the Symmetry modifier and then collapse the object to an Editable Poly making sure to weld any overlapping verts afterwards ! Next select all the front Poly's and perform an Extrusion, keeping the height to zero and then clicking Apply and OK (Fig 10). Now with the poly's still selected scale them down slightly as shown in the picture.

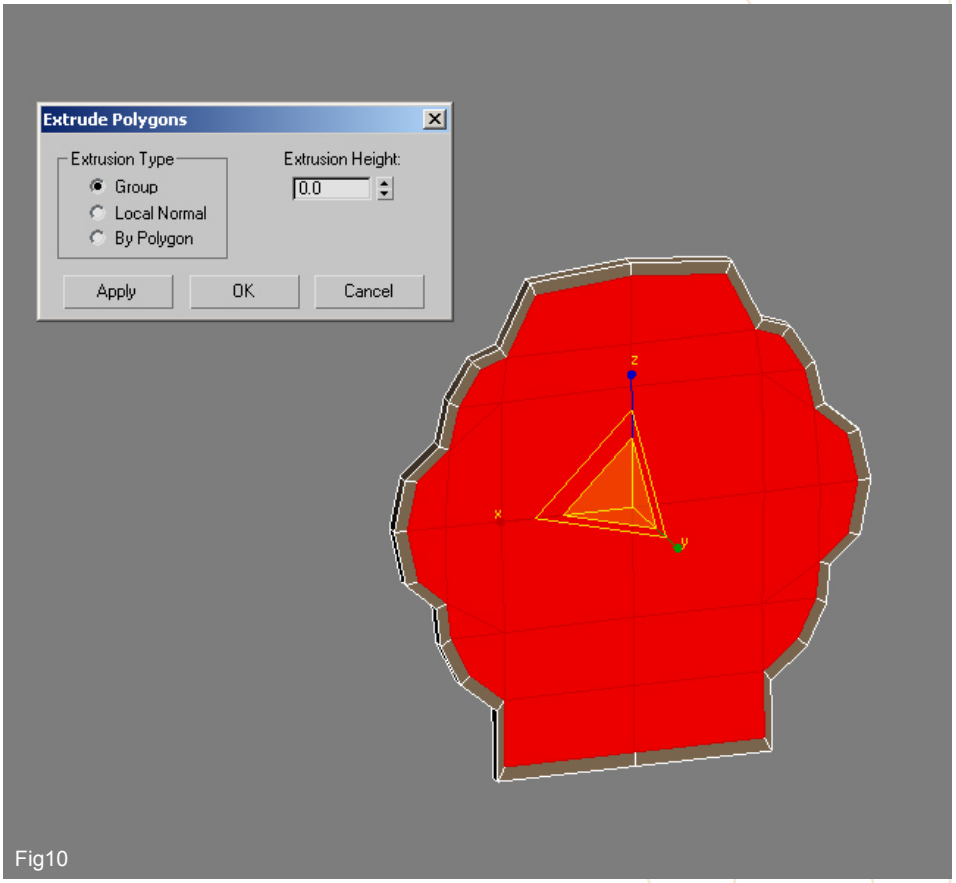


Fig10

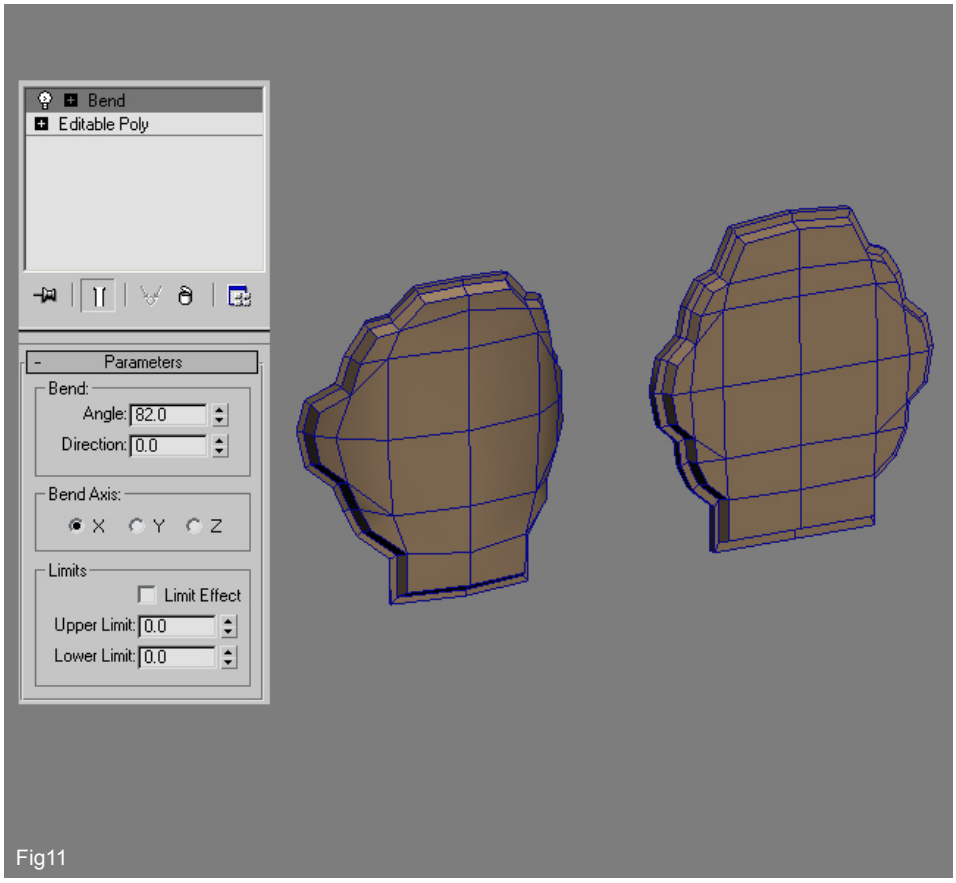


Fig11

11. With the same group selected add a Bevel by an amount similar to that shown on the right in Fig. 11. To enable the model to fit around the shoulder it will need to be curved which we can do by adding a Bend modifier. You will notice from the picture that it has been bent around the X axis but it is perhaps better to apply this when the model is complete to form a better shape as we will add some more subdivisions first.

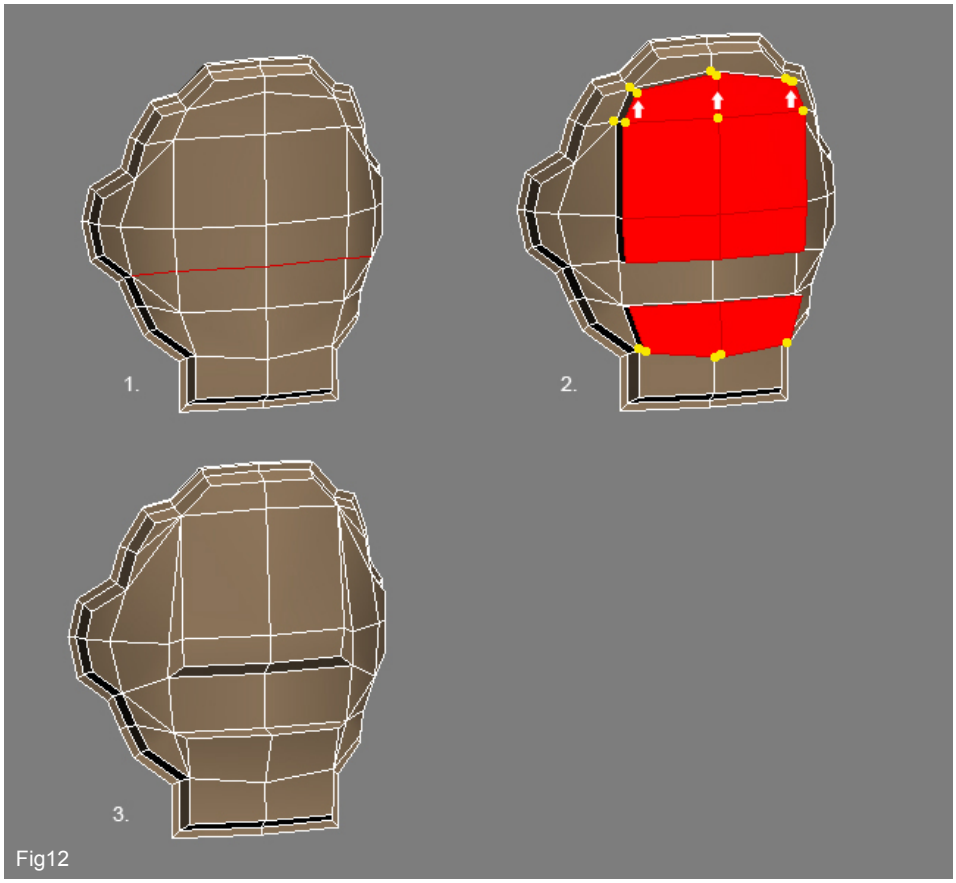
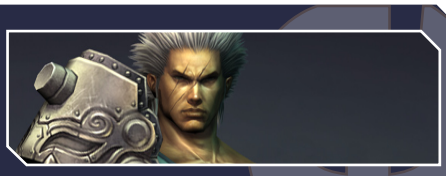


Fig12

12. The next step is to make a cut across the front as shown in red on stage 1 in Fig 12. Now select the poly's in red on stage 2 and Extrude them outwards by a similar amount. Now weld up the verts highlighted in yellow to form the version on stage 3. The second row down from the top can be welded to the row above as indicated by the white arrows.



13. Now add two cuts along the front marked by the red lines on stage 1 in Fig 13. Then select the new verts shown in green and one by one perform an extrusion altering the height and base width to form teeth shapes similar to step 2 on the right. If you did not add a Bend modifier beforehand then do so now and fit it around the shoulder area.

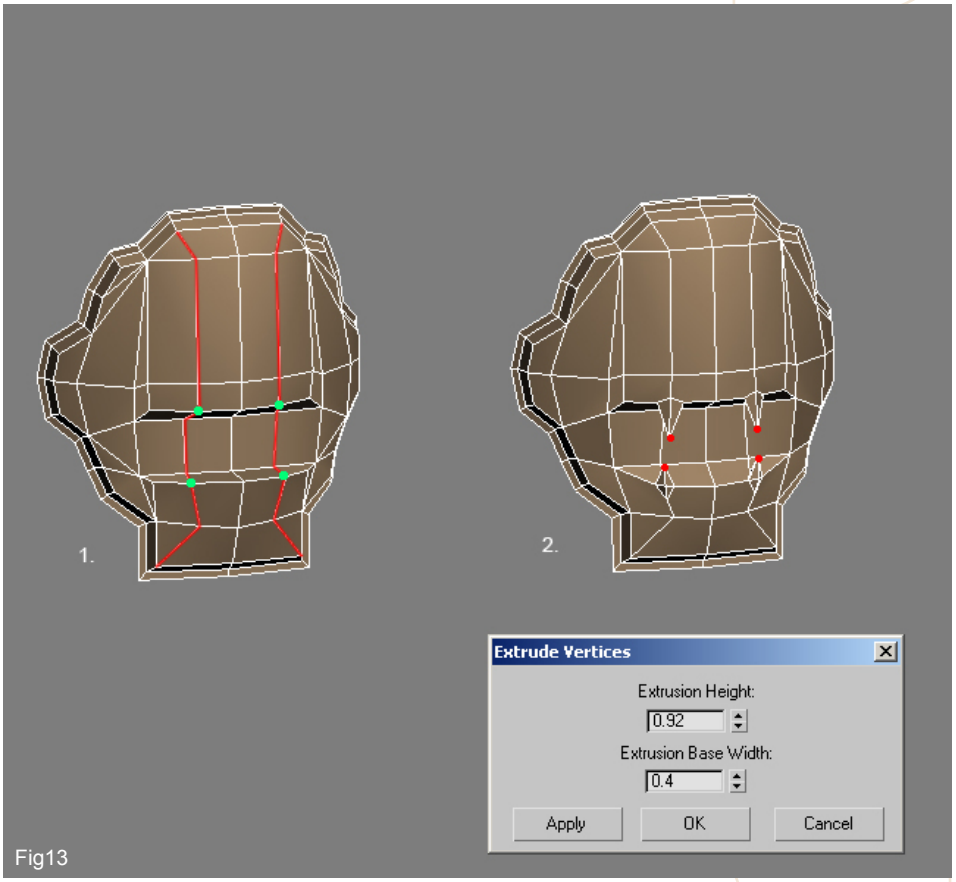


Fig13

14. All that is left to do now is add a few small details and we will have completed the modelling phase. In Fig 14 you can see that I have made a small cylinder and placed it at the center of the shoulder (2) and made some studs to go around the wrist area (3). I have also added a few extra poly's around the shoulder strap that will be used to texture the buckles eventually (1).

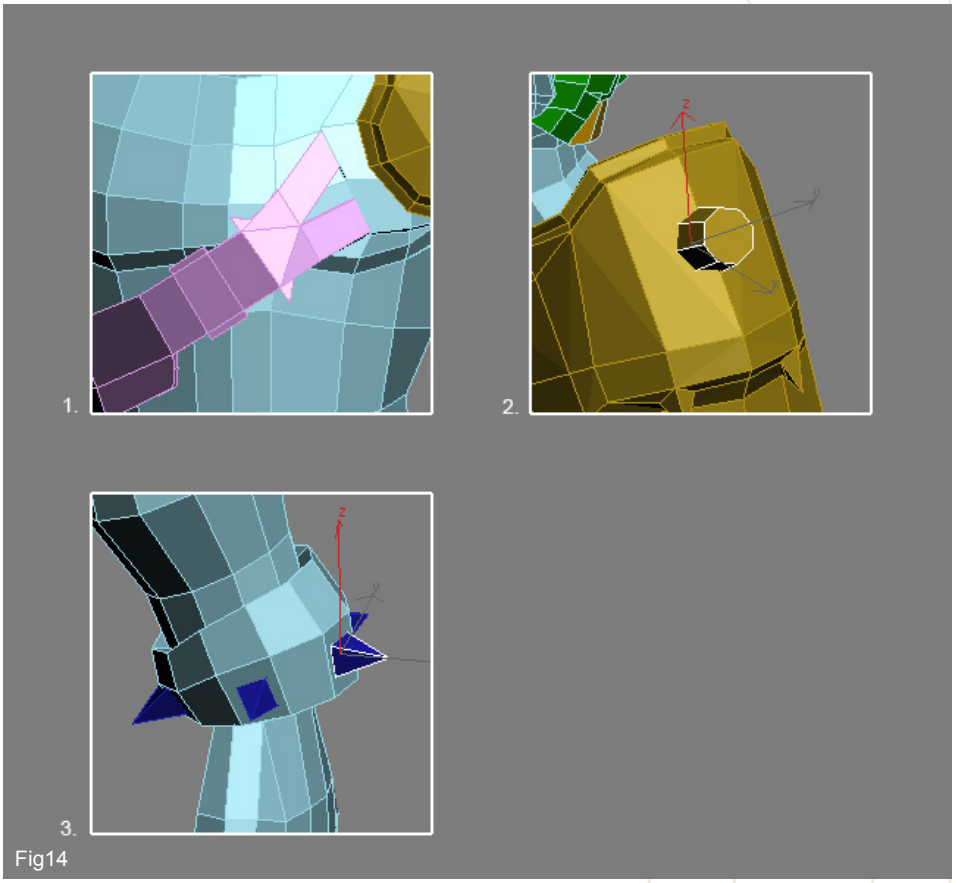
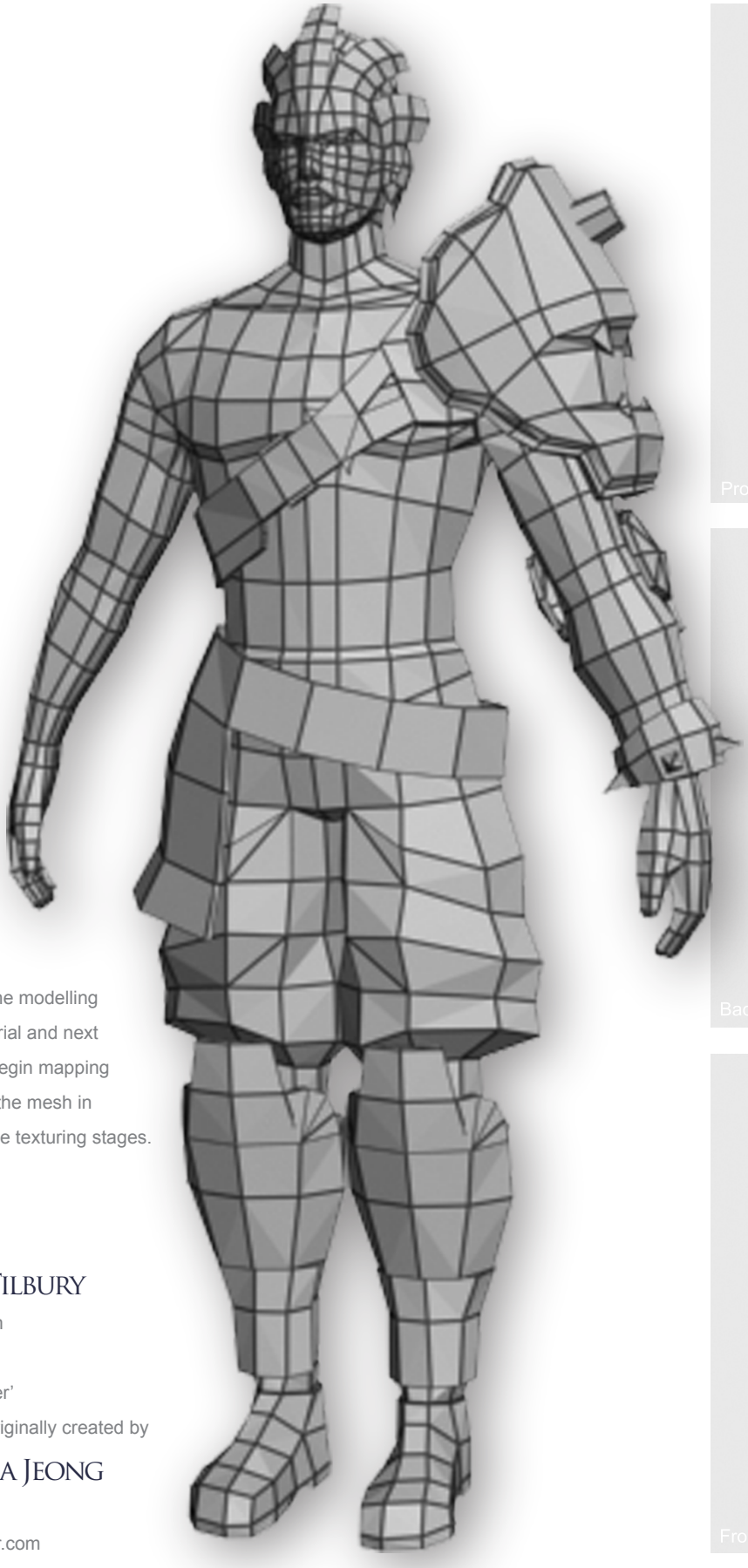
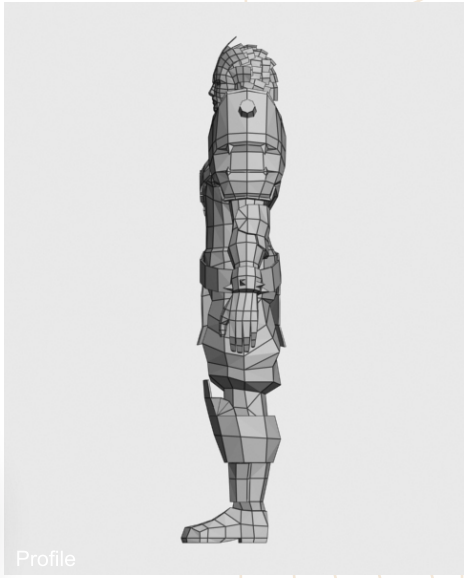
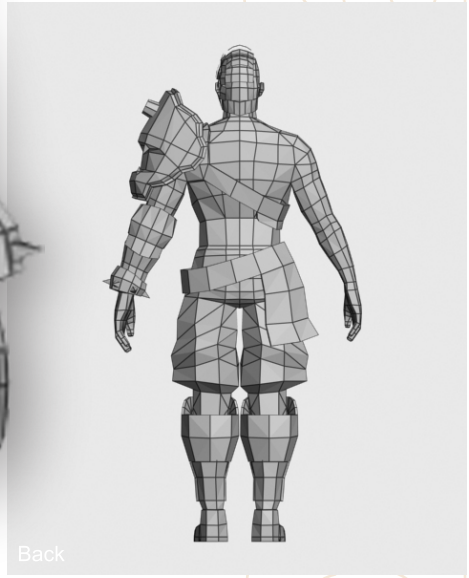


Fig14

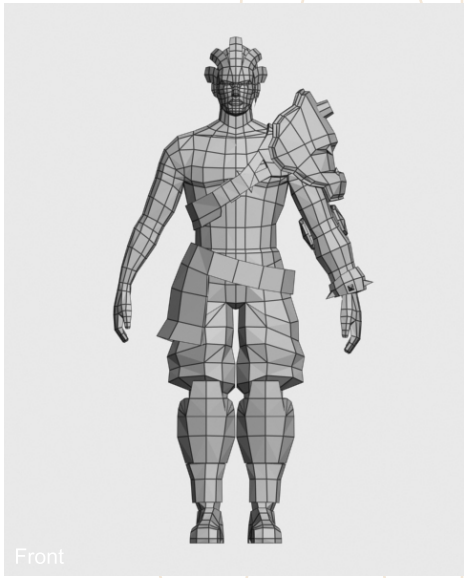




Profile



Back



Front

This concludes the modelling phase of the tutorial and next month we shall begin mapping and unwrapping the mesh in preparation for the texturing stages.

Tutorial By :

RICHARD TILBURY

rich@3dtotal.com

The ‘Swordmaster’ Character was originally created by

SEONG-WHA JEONG

www.xcloud.net

sephiloss@naver.com



The Swordmaster

Is our new precise, step by step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have had the tutorial created for the 5 major 3d applications, but even if you are not a user of one of them, the principles should be easily followed in nearly all other 3d applications. Over the next 8 months we will outline in detail the process for creating the 'Swordmaster' you see on the left. The schedule for the different parts of the tutorial is as follows:

Issue 009 May 06

Modeling the Head

Issue 010 June 06

Modeling the Torso

Issue 011 July 06

Modeling the Arms & Legs

Issue 012 August 06

Modeling the Clothing & Hair

Issue 013 September 06

Modeling the Armour

Issue 014 October 06

Mapping & Unwrapping

Issue 015 November 06

Texturing the Skin & Body

Issue 016 December 06

Texturing the Armour & Clothing

Enjoy ...

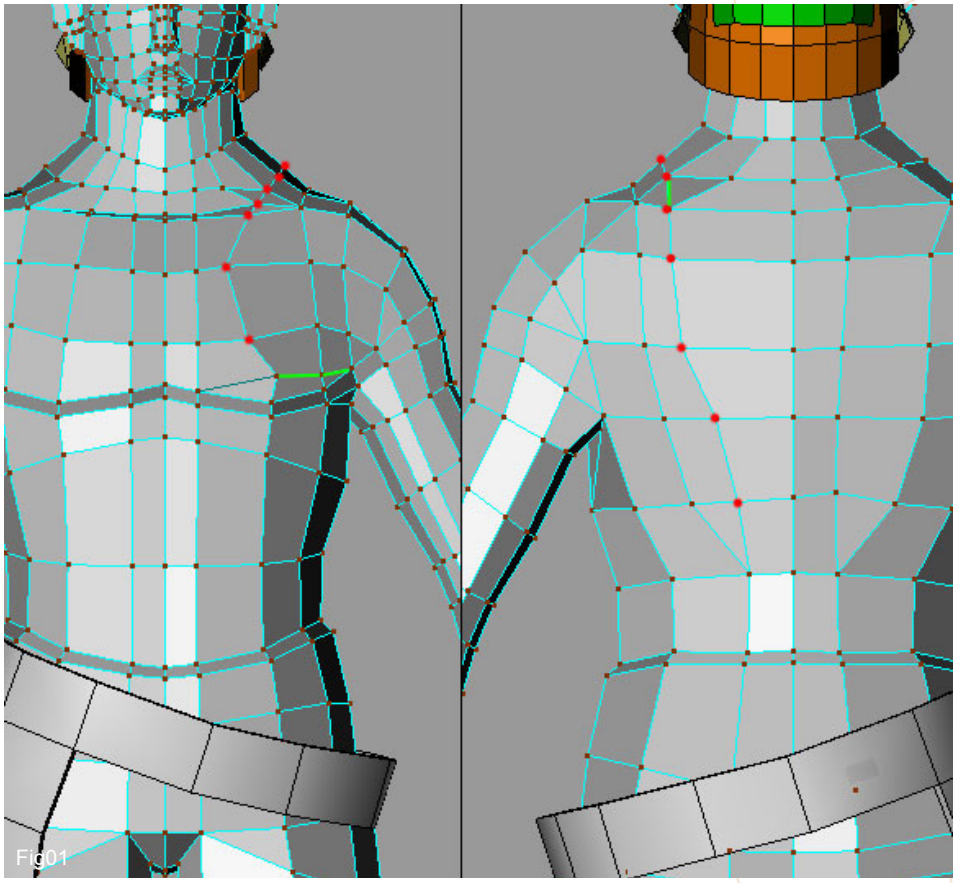
Part 5
Modelling the Armour

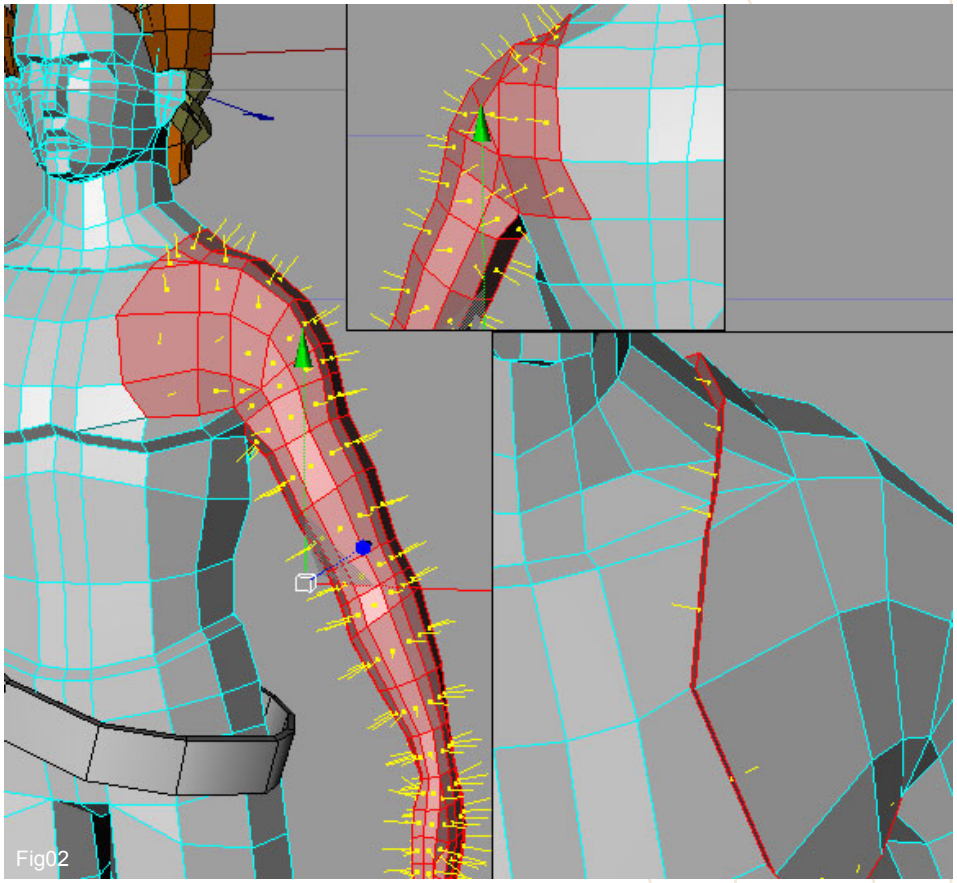
Introduction:

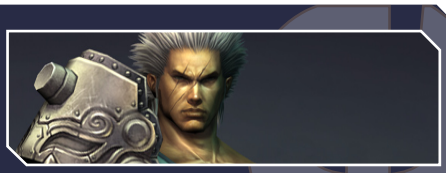
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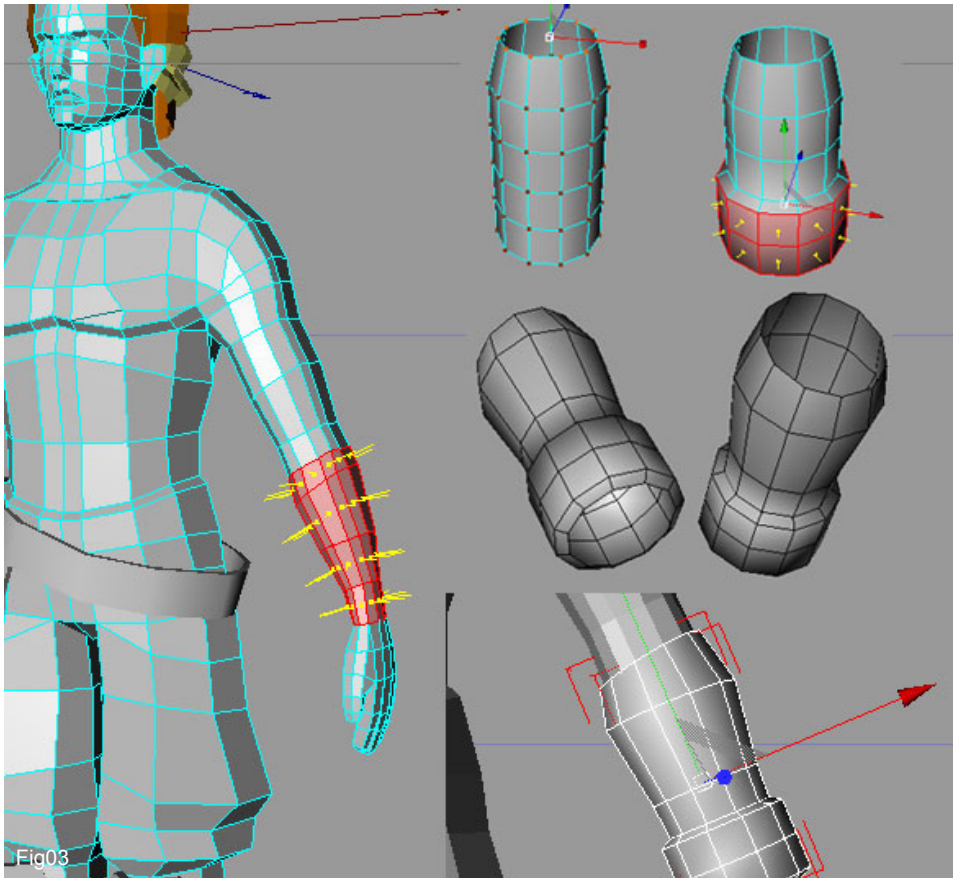
1. If you have followed the previous tutorials then open the last file which saw us make the Belt for his waist. The first thing we are going to do now is re-position some of the verts on his left arm. Before this you need to remove the Symmetry so select the Symmetry object and make it Editable. Move now the verts like shown in Fig01 (highlighted in red) and add two cuts (green line). When you have reached this stage it is time to create the actual armour for the arm.

2. The next step is to select the poly's that make up the whole of the armour section (Fig02). Then disconnect these poly's (right mouse > disconnect, preserve group), scale them slightly and re-position them central to the shoulder edge and then join them using the Bridge tool. (Bottom right of figure).

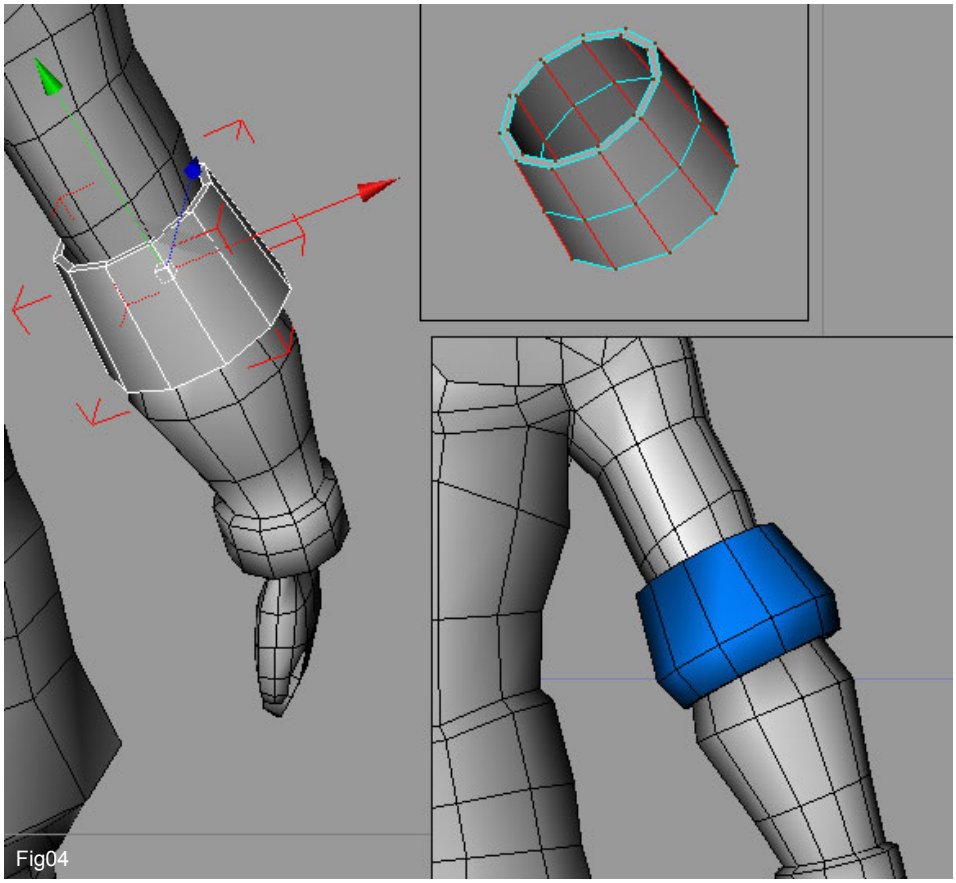

Fig01


Fig02



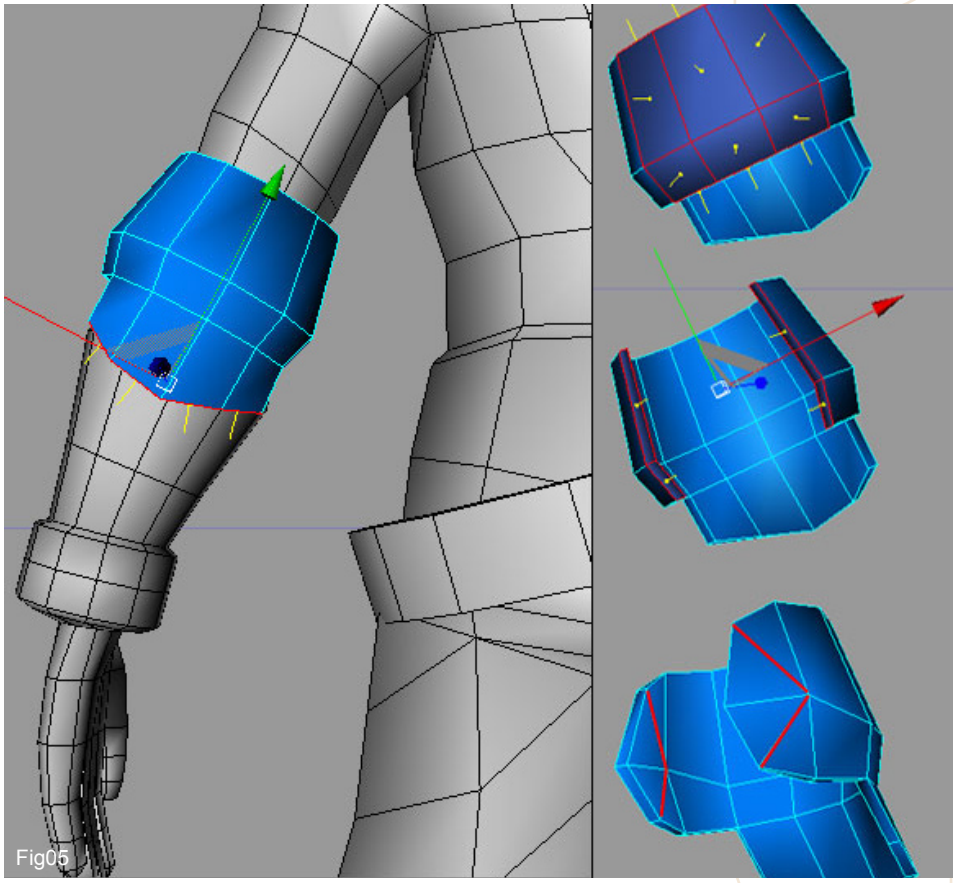


3. Select now the poly's like shown in Fig03 and delete them. Create then a Cylinder with 11 sides and no caps. Scale the top row of verts then bevel the two bottom rows of poly's to form the shape seen on the right. Now place the cylinder between the elbow and wrist and scale it to fit as closely as possible to the elbow. Connect the cylinder to the body and then create a set of poly's around the wrist.

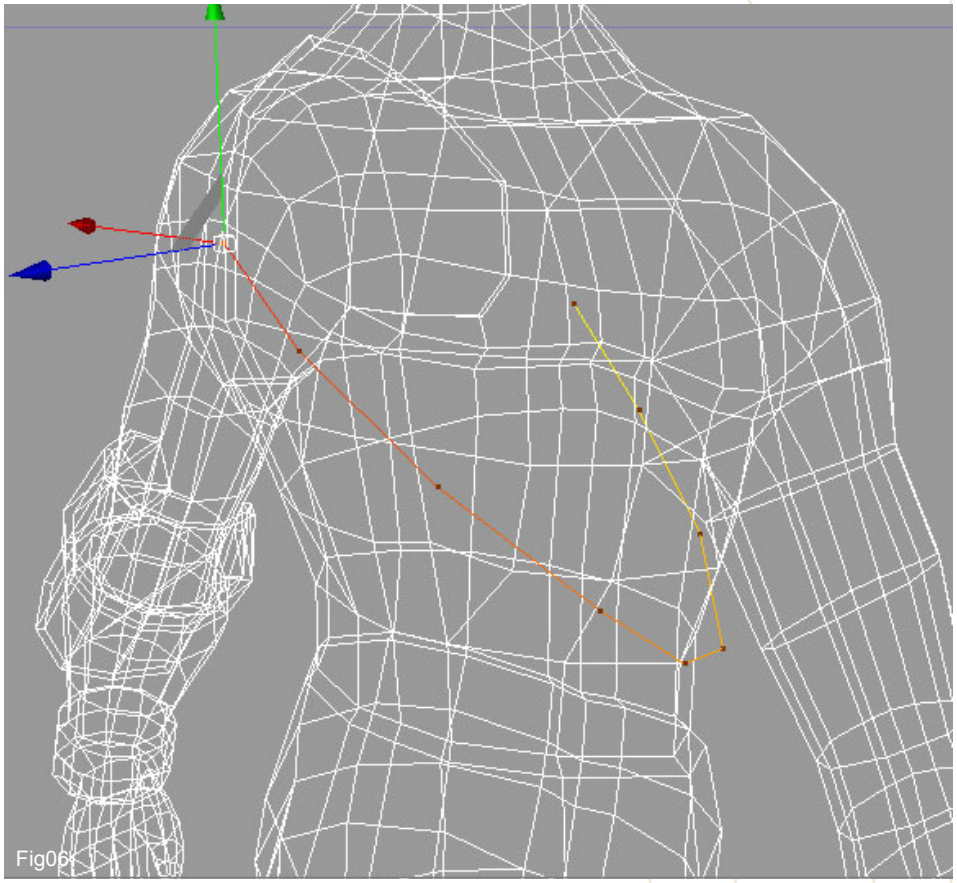


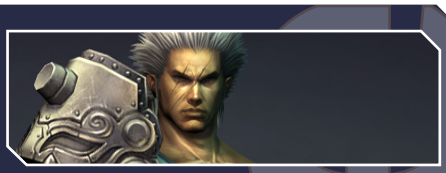
4. Next piece to be made is the elbow guard. Start by creating a tube with 11 sides. Position it like shown in Fig04 and then scale a bit the bottom row of verts. Add a cut as seen on the top right of figure and then re-position the verts like shown on the bottom right of figure.

5. To finish off the piece extrude the middle faces as shown on the left of Fig05. Delete the poly's selected on the top right of figure and then built the poly's as seen on the middle - right of figure. Finally add the cuts like shown and move the verts in the position as seen on the bottom right of figure.


Fig05

6. Well we have the armour across his left arm but now we need to create a strap that wraps around his body that holds it in place. So we will proceed like we done for the belt. Then create a Spline like shown in Fig06. So from main menu choose Objects > Create Spline > Freehand (in its properties choose the linear type). Draw the shape on the front view the re-position the vertexes around the body like shown.


Fig06



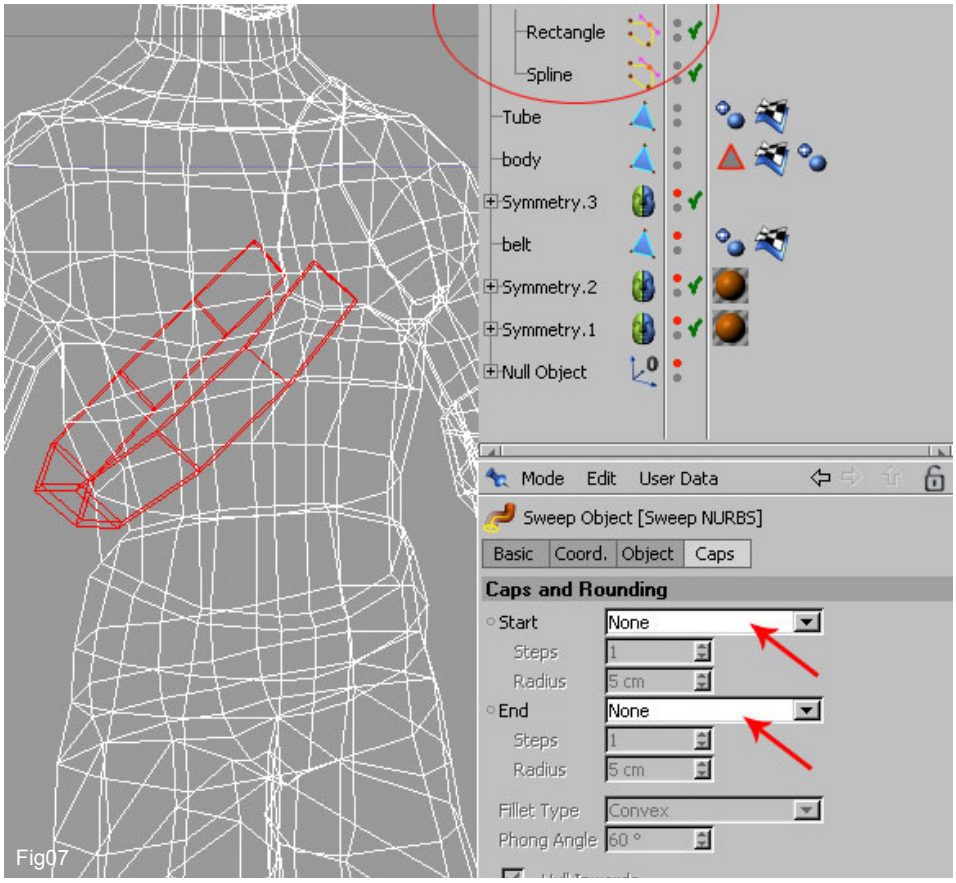
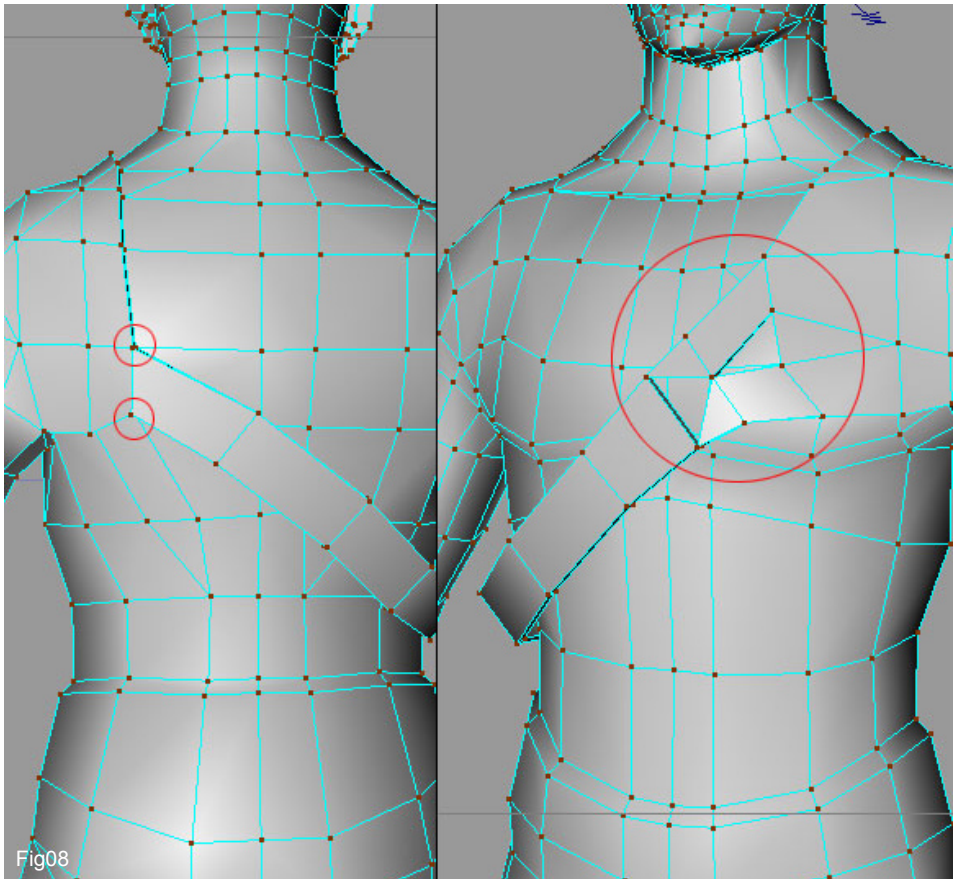


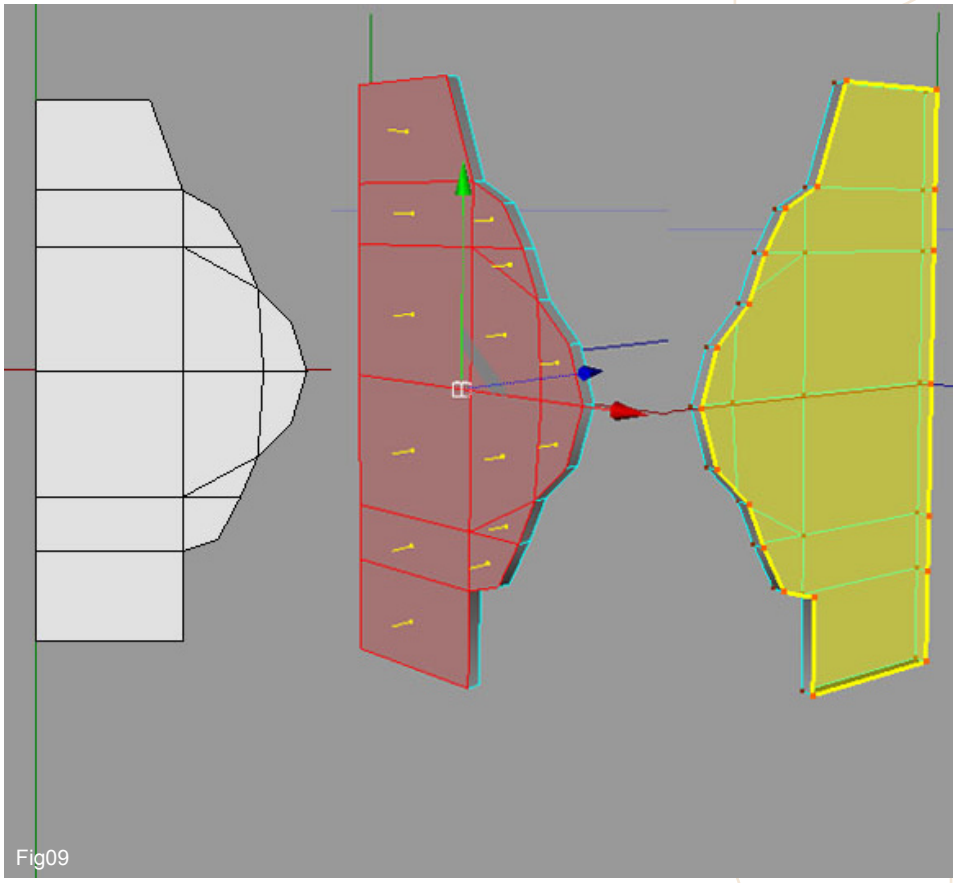
Fig07

7. Create now another Spline. This time choose a simple Rectangle then Add a Sweep NURBS object and drag the two Spline in it. Scale the Rectangle Spline in order to obtain the shape like shown in Fig07. In the Sweep NURBS properties uncheck both capping boxes.

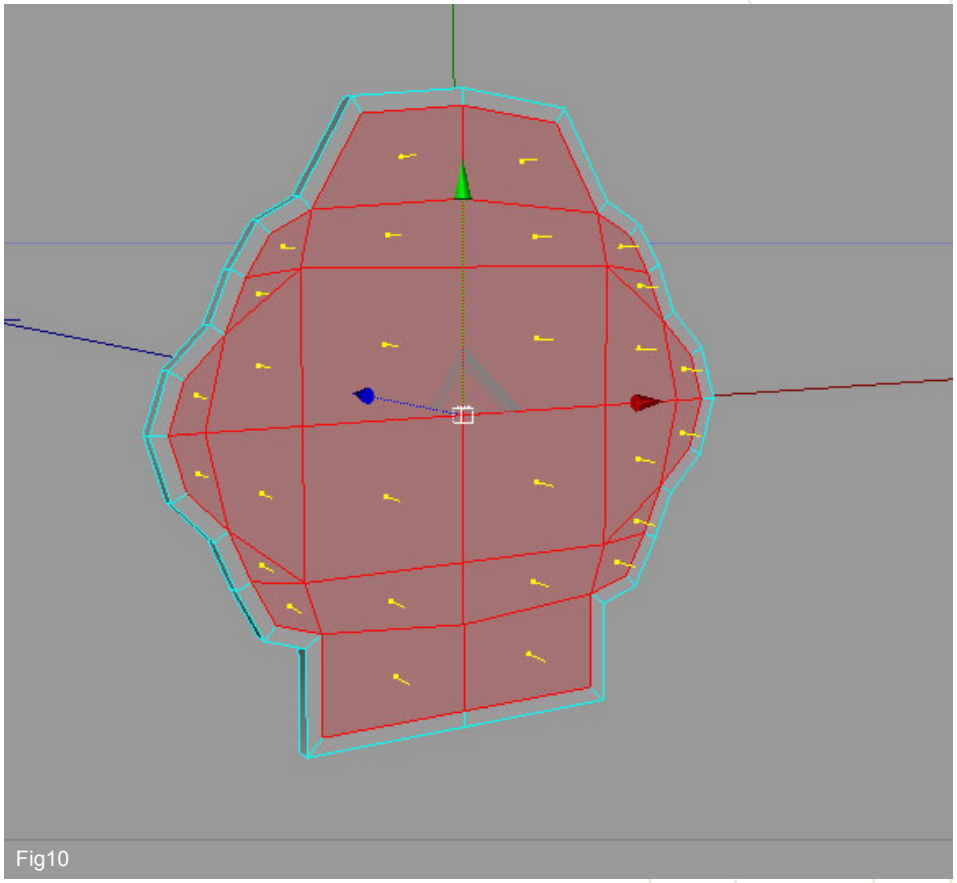

Fig08

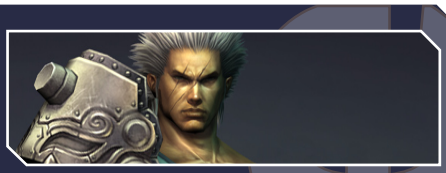
8. Once you finished to adjust the position of verts make the Sweep NURBS object editable. Then connect the strap to the body and then weld the verts like shown in Fig08. For the front do the same shape as seen on the right of figure.

9. Next step is to create the final piece of the armour. So create a shape similar to the one on the right of Fig09 which you can do either by creating a Polygon object. Then Extrude all faces of the object and then re-build the back by using “Close Polygon Hole “ tool and then “Knife” tool to obtain the same cuts as the front of the object.


Fig09

10. Duplicate this object by using the Symmetry object. Then make the Symmetry editable. Select all the front poly’s and make a Bevel, keeping the height to zero by holding the Ctrl key. (Fig10)


Fig10



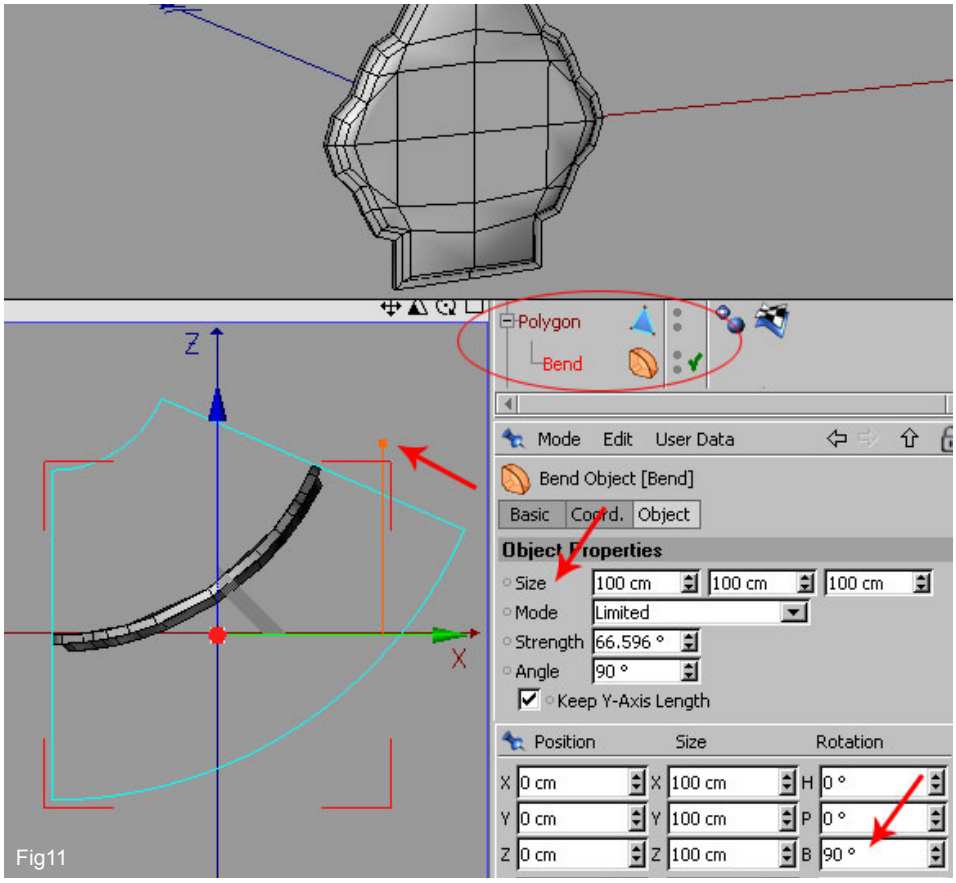


Fig11

11. With the same group of faces selected add another Bevel by an amount similar to that shown on the top of Fig11. To enable the model to fit around the shoulder it will need to be curved which we can do by adding a Bend modifier. So from main menu choose Objects > Deformation > Bend. Drag it inside the Polygon and reduce its size then rotate it of 90 degrees along the Z axis. Curve it now the object by moving the orange point like shown on the left of figure. It is perhaps better to apply this when the model is complete to form a better shape as we will add some more subdivisions first.

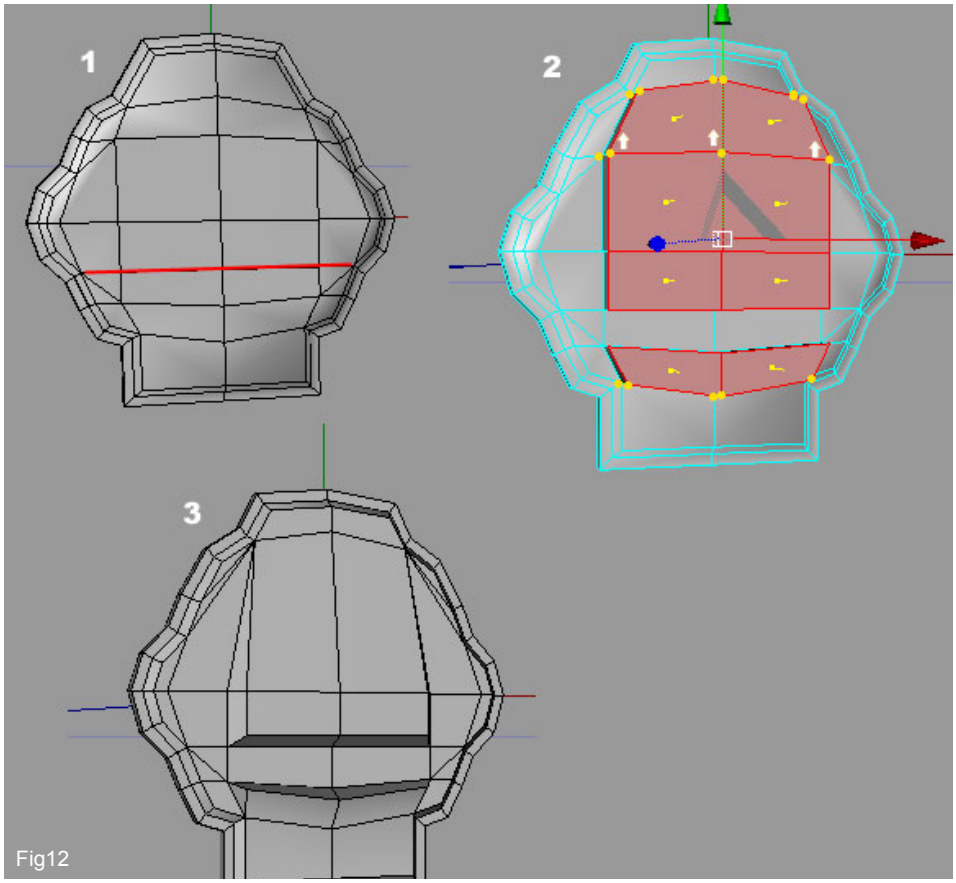


Fig12

12. Make now a cut across the front as seen in red on stage 1 in Fig12. Select the poly's in red on stage 2 and Extrude them outwards by a similar amount. Now weld up the verts highlighted in yellow to form the version on stage 3. The second row down from the top can be welded to the row above as indicated by the white arrows.

13. Add two cuts along the front marked by the red lines on stage 1 in Fig13. Select the edges like shown on the stage 2 and apply a cut, holding the Ctrl key to define the distance as seen on the stage 3. Do the same for the other edges in order to obtain the same subdivision then select the four verts and move them like shown on the stage 4. If you did not add a Bend modification beforehand then do so now and fit it around the shoulder area.

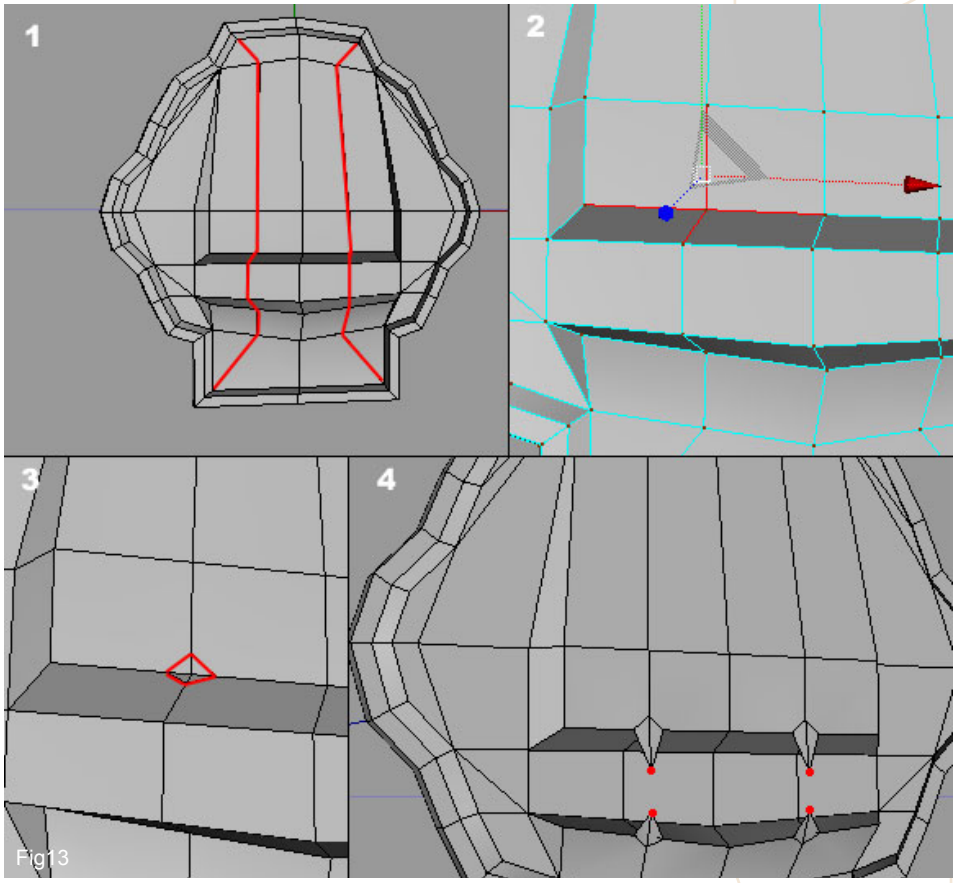
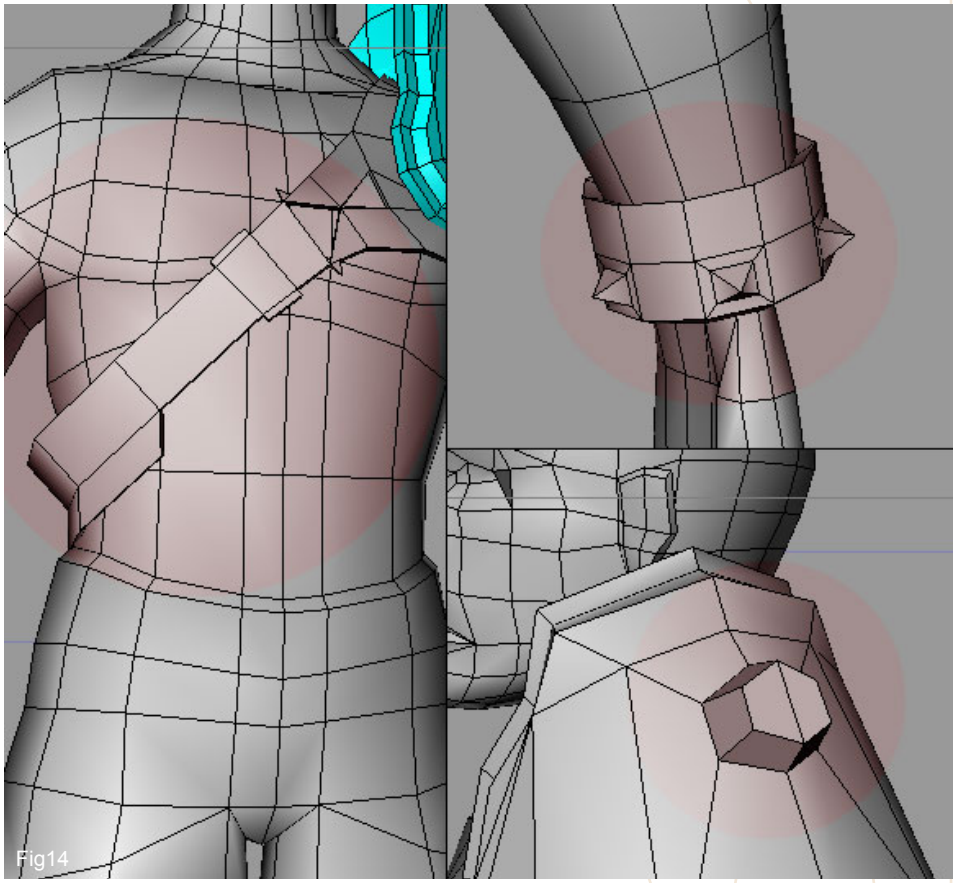
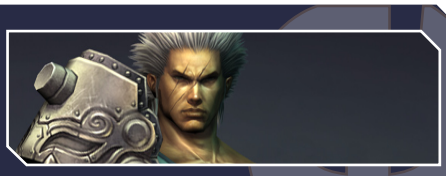
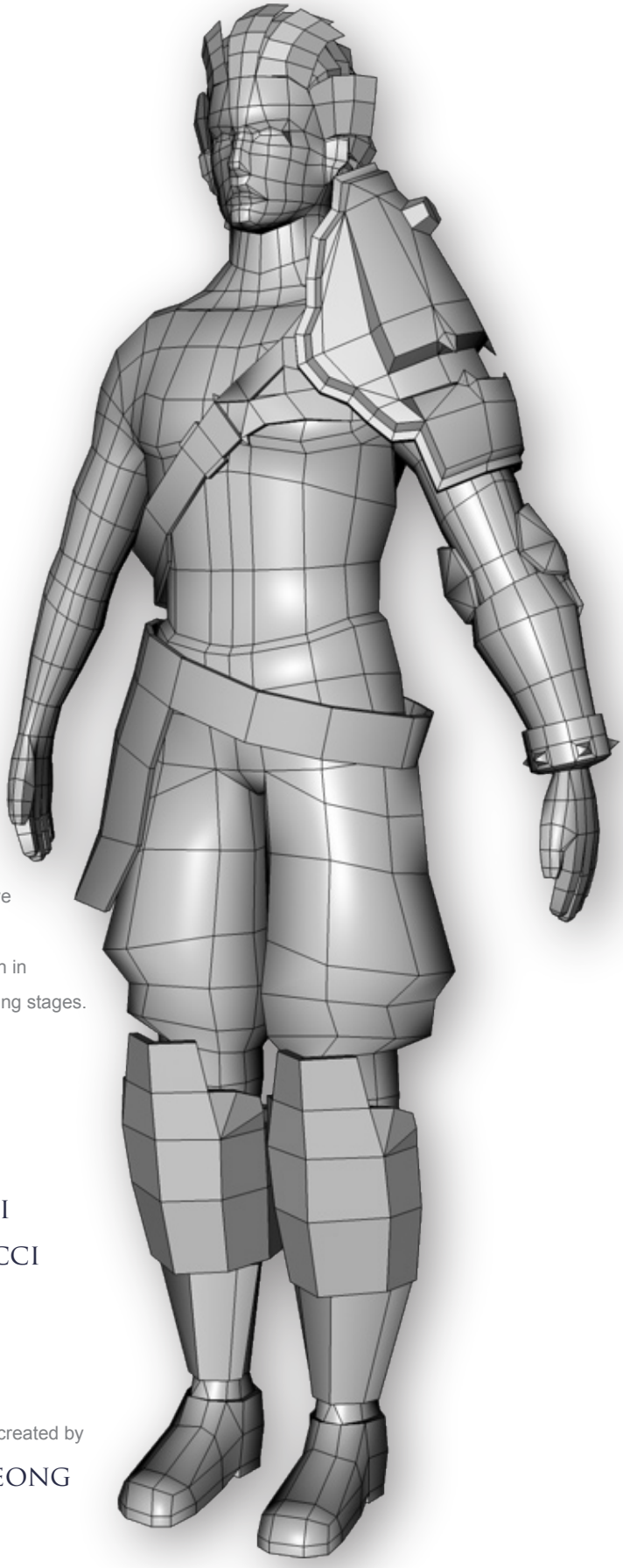


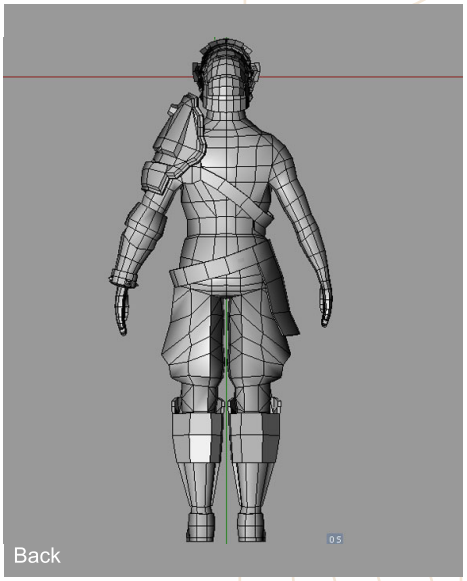
Fig13

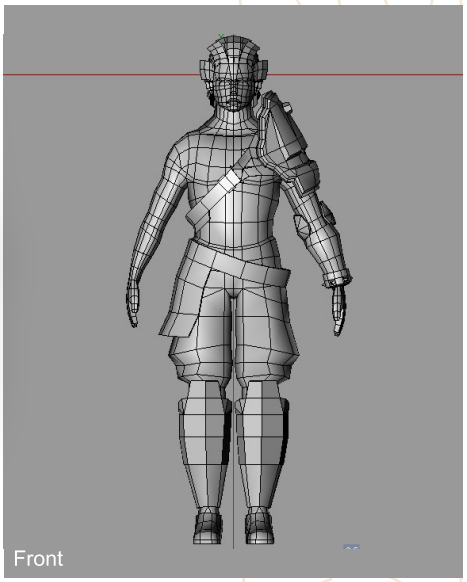
14. All that is left to do now is add a few small details and we will have completed the modelling phase. How you can see from picture (left) I added a few extra poly's around the shoulder strap. On the top-right of figure you can see some studs around the wrist area and finally a small extrusion on the center of shoulder (bottom - right). To make editable the upper shoulder piece of armour you need to select the object and from the right mouse menu choose "Current state to Object", this will make an editable copy of the object which you can modify.

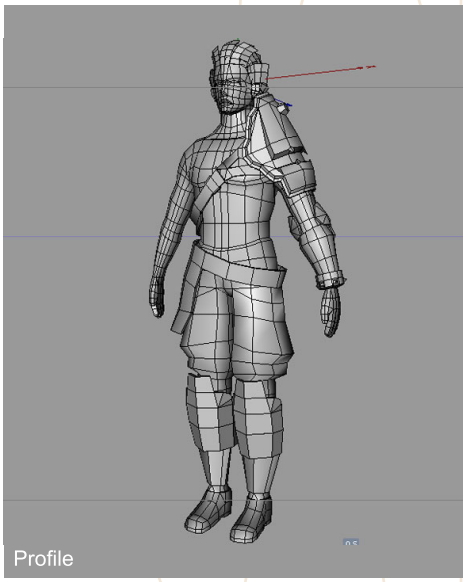

Fig14











This concludes the modelling phase of the tutorial and next month we shall begin mapping and unwrapping the mesh in preparation for the texturing stages.

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Issue 012 August 06

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Issue 013 September 06

Modeling the Armour

Issue 014 October 06

Mapping & Unwrapping

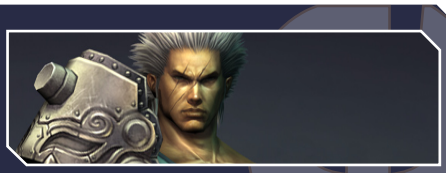
Issue 015 November 06

Texturing the Skin & Body

Issue 016 December 06

Texturing the Armour & Clothing

Enjoy ...



Part 5
Modelling the Armour

Introduction

Hello and welcome to the fifth part of Swordmaster tutorial. In the previous part we added clothing and hair to the model and in this part we are going to finish modelling part of the tutorial by adding armour to the warrior model.

1. First thing we are going to do is to reposition the points and make a few cuts in order to prepare the starting point of the shoulder armour. Use Drag tool to move the points (marked red in image) and add cuts (marked green) on the front and back sides of the model's left side.

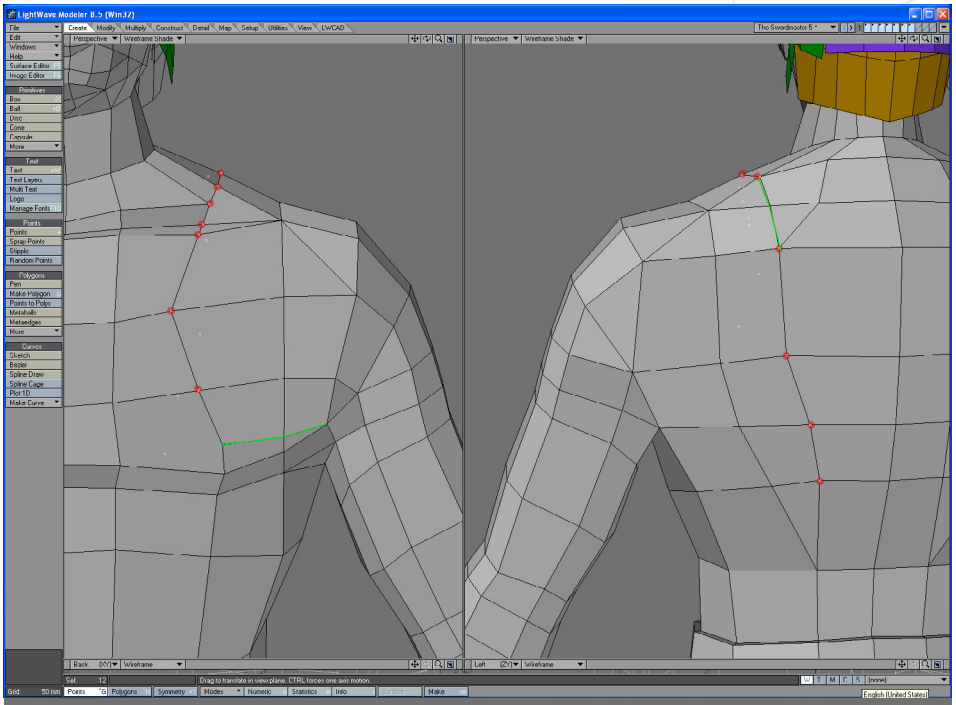


Fig01

2. Select polygons marked red in image. These polygons will make the armour section.

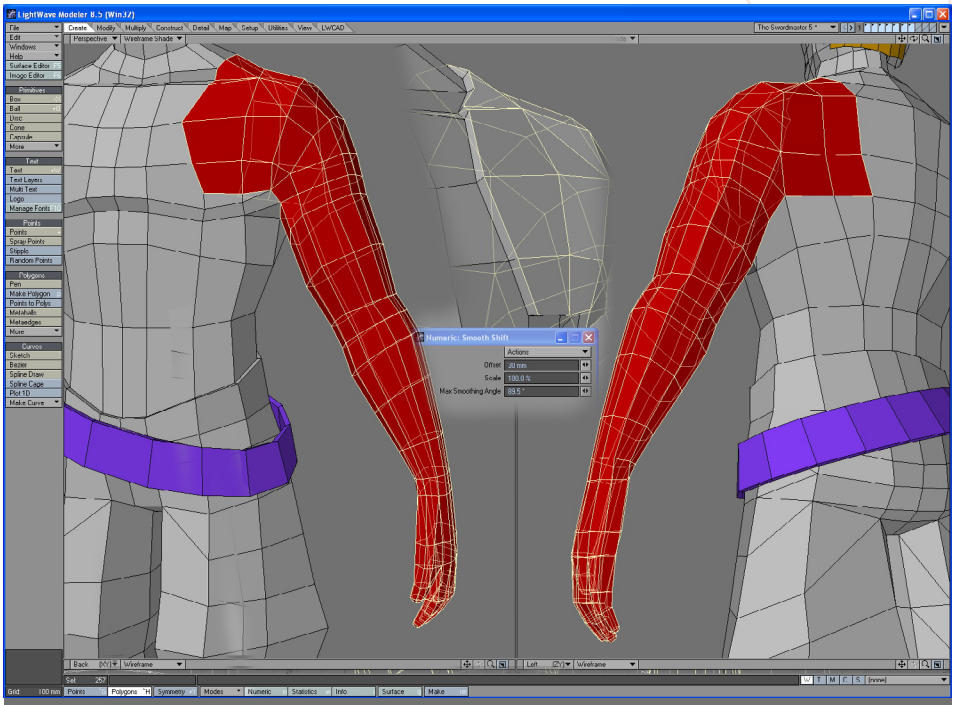


Fig02

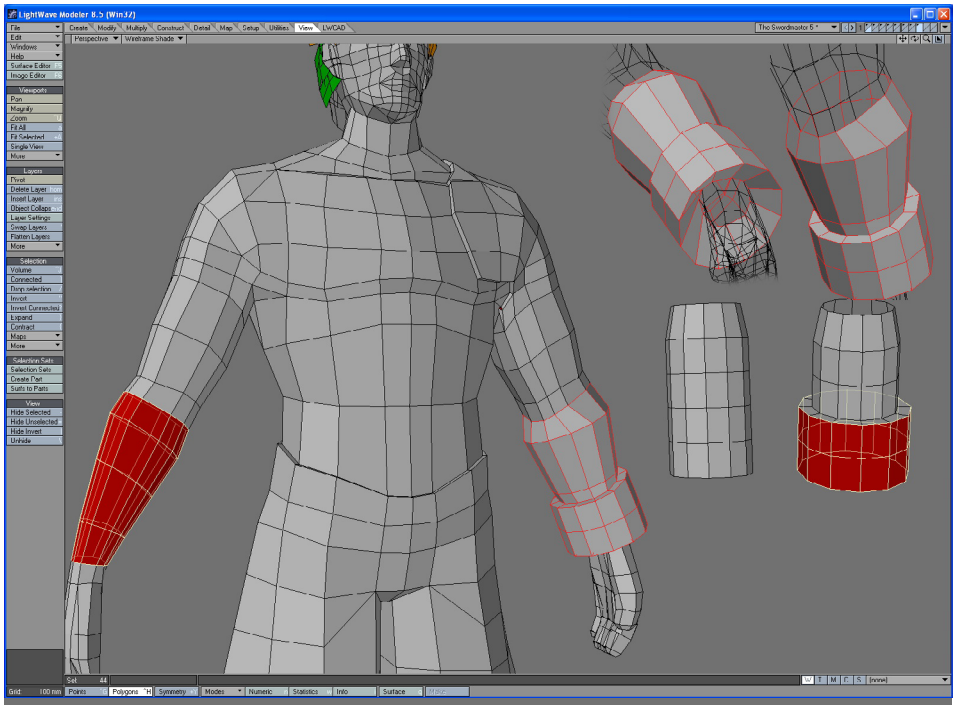


Fig03

3. Select red marked polygons but on the left side of the model (where the armour is) and delete them. Make new 12 sided cylinder with 5 segments. Delete top and bottom 12-sided polygons. Select bottom two rows of polygons, extend them once using Extender plus tool (“e”) and scale them up a bit. Select top row of points and scale them down. Scale, rotate and position newly created cylinder so it fits to the arm and, finally, weld cylinder top and bottom points to the arm ones.

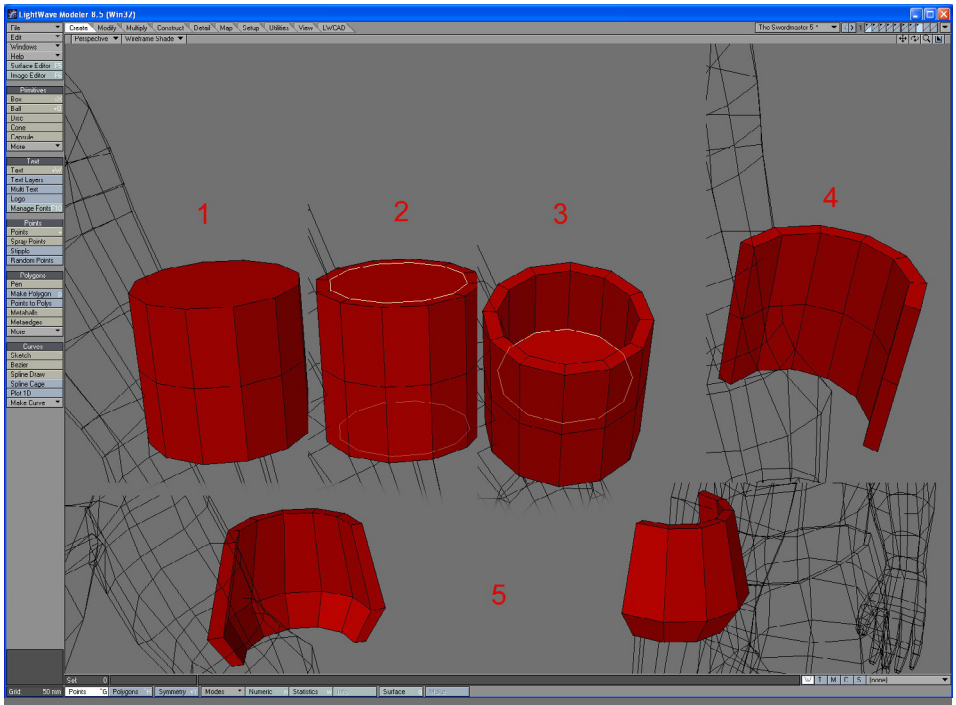
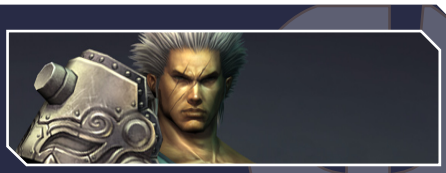


Fig04

4. For the elbow protection, create new cylinder with 12 sides and 2 segments. Select top and bottom 12-sided polygons and bevel them in using inset only. Stretch down to zero these to polygons along Y axis and delete them. Hit “m” to merge points. Delete front six sides of the tube and create polygons to fix the hollow parts. Select middle row of points and scale them up a little bit.



5. Select polygons marked red in image and extend and move them like in image. Add cuts marked greed by selecting corner points of each polygon and using Split tool. Finally, reposition the elbow protection to its place.

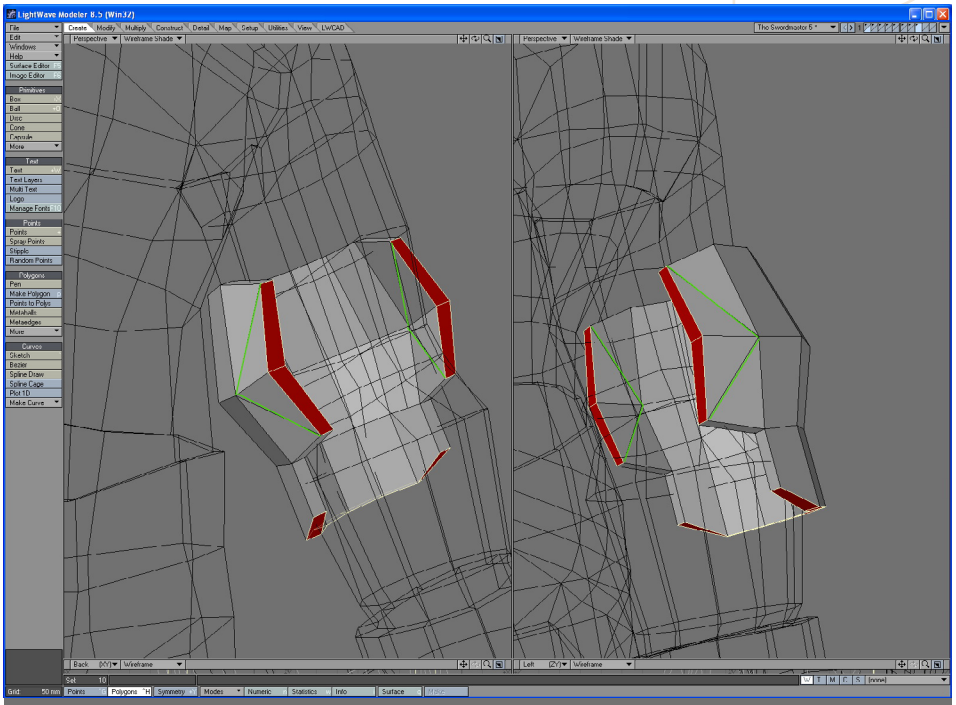


Fig05

6. Create spline around the upper abdomen for the armour belt. Start from the front part of the armour, go under the right arm and finish at the back part of the armour.

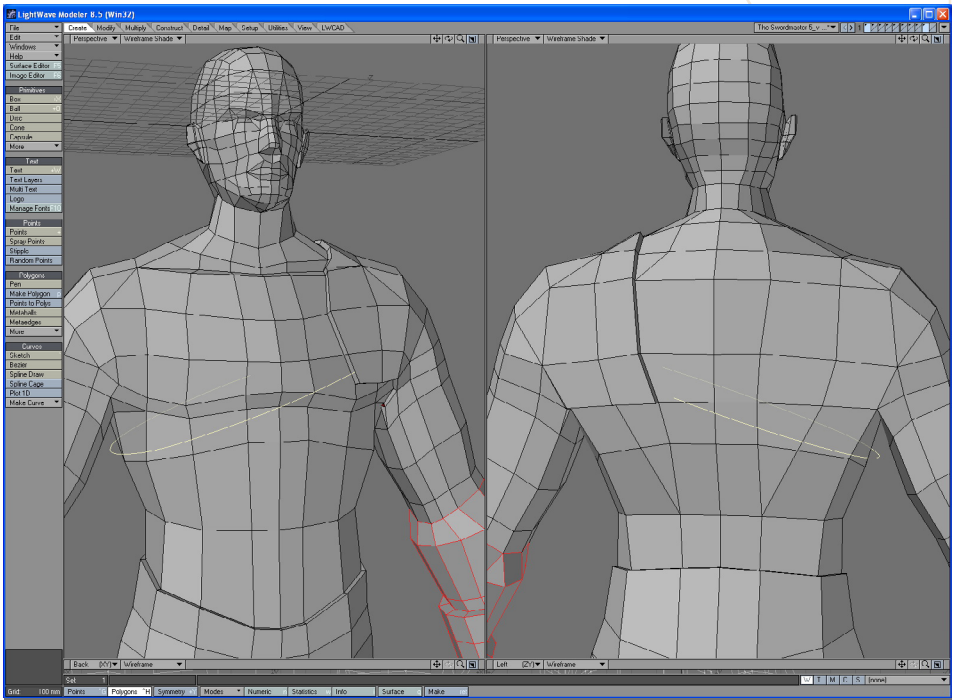


Fig06

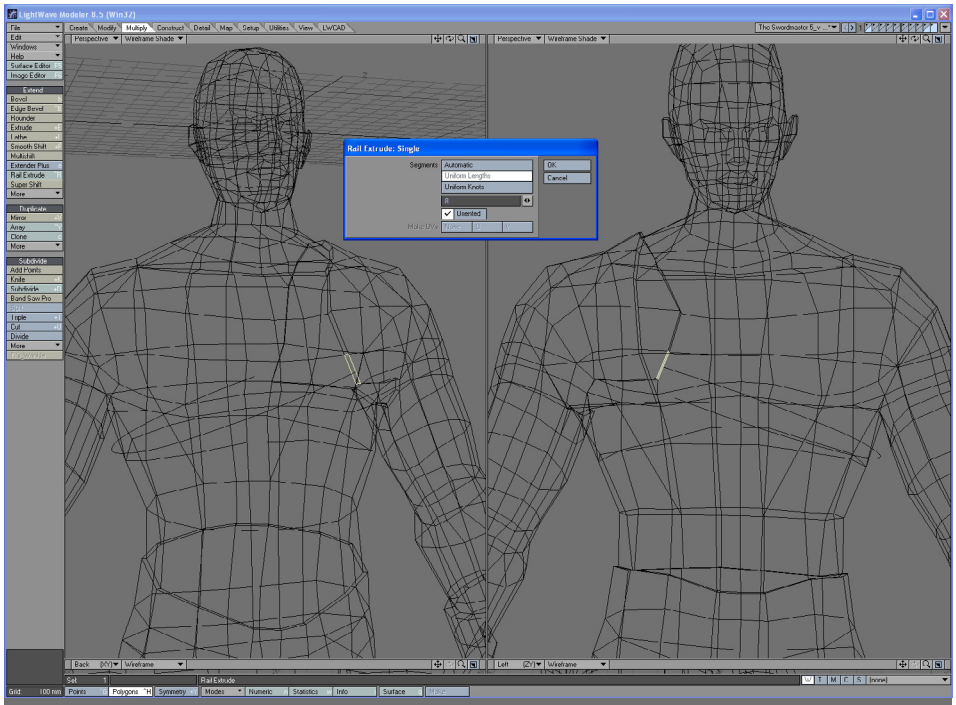


Fig07

7. Copy the front armour polygon into the new layer. Put the spline in the background layer and activate Rail Extrude from the Multiply-Extend. Select Uniform Lengths, enter 8 for number of lengths, check Oriented box and hit OK.

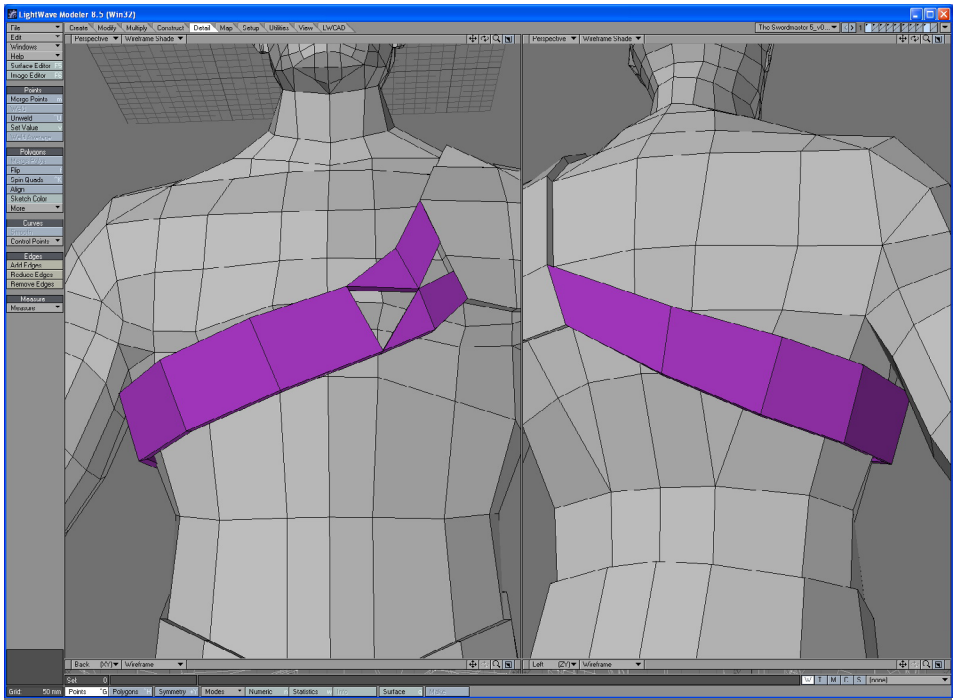
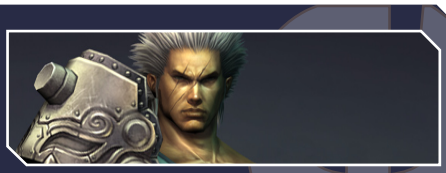


Fig08

8. Snap end and start points of the belt to the armour parts and add two small gaps at the front part of the armour.



9. Now we need to add the shoulder piece. Create rectangle with 6 segments along Y axis. Extend 5 points on the left side of the rectangle and move them to the left. Deselect top and bottom points and again extend and move. Rearrange points and add cuts to get the shape similar to the one in image. Finally, Extrude polygons to add thickness to the geometry.

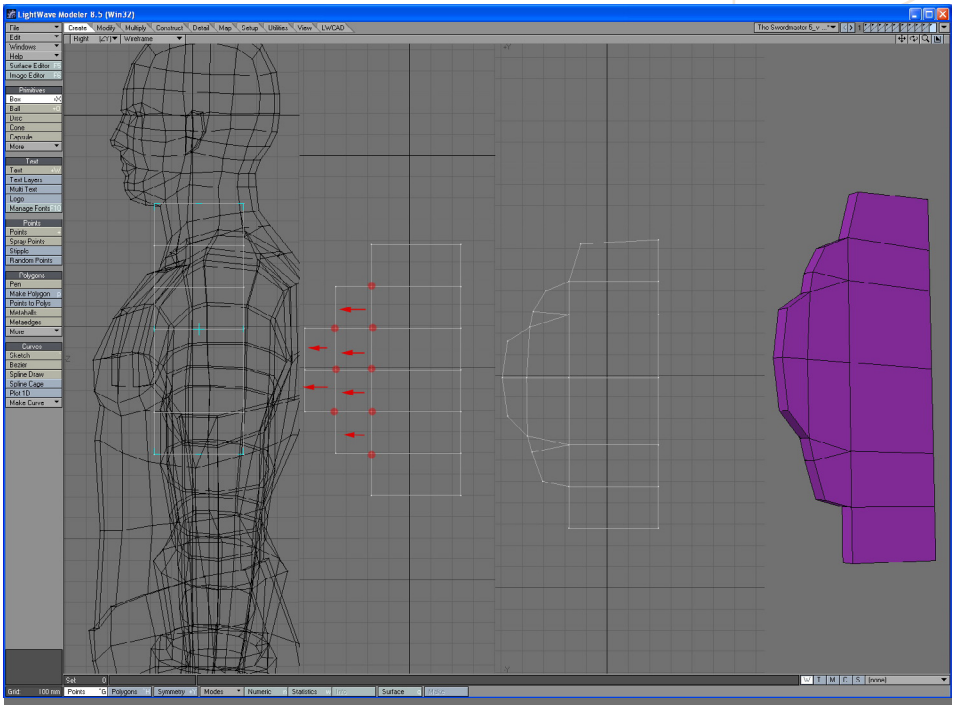


Fig09

10. Mirror the object along Z axis. Make sure middle points are not duplicated and delete the polygons in the middle of the geometry created by extrusion. Select outer polygons, extend them once and scale them down.

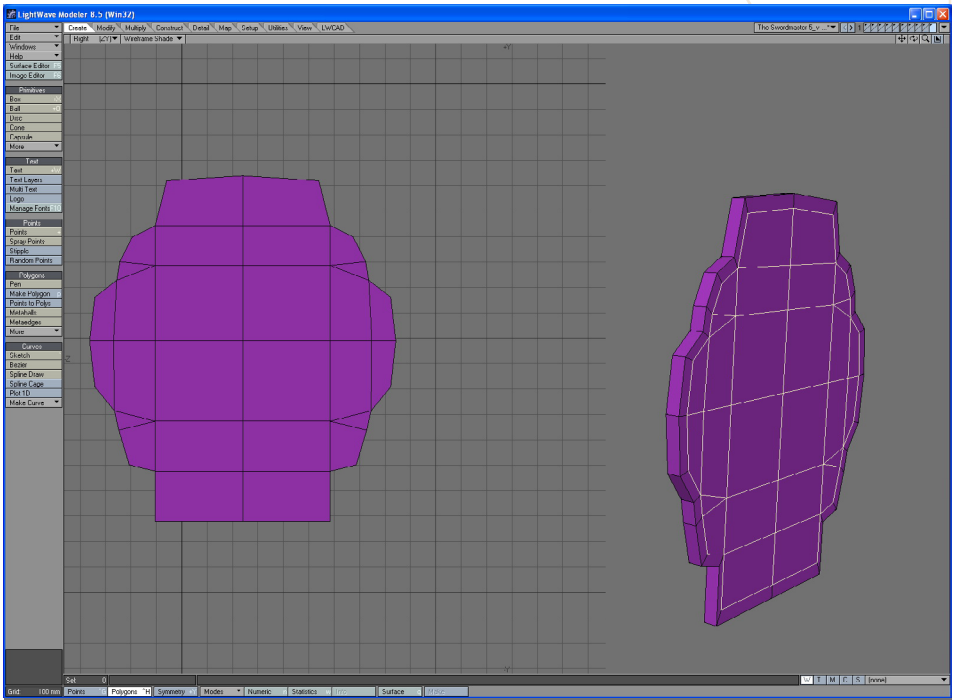


Fig10

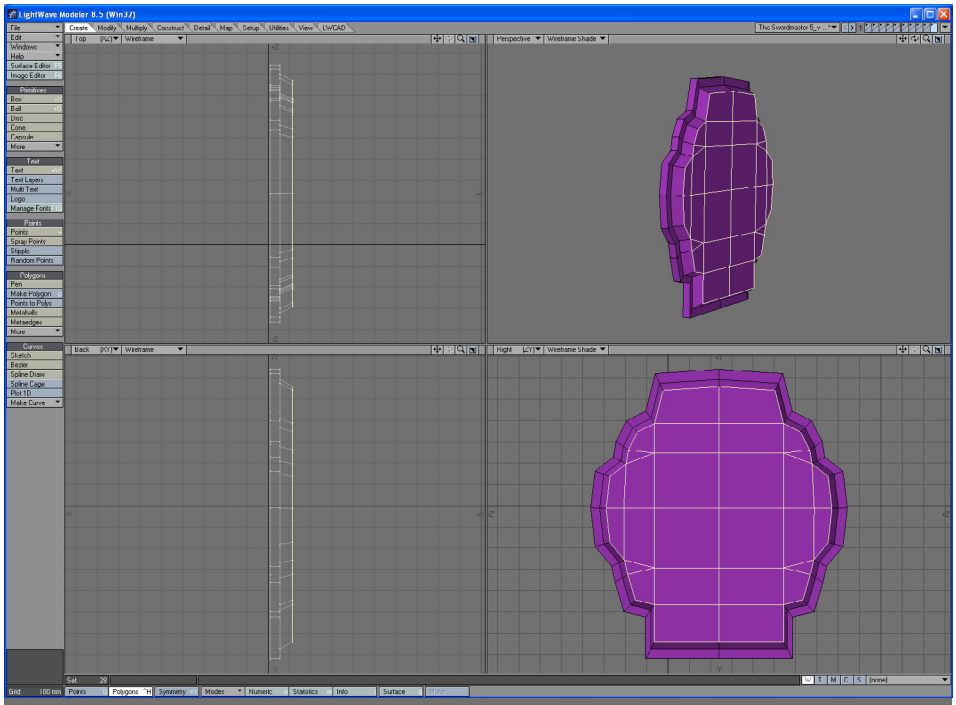


Fig11

11. With the same front polygons selected, extend once more, move polygons outward and scale them down.

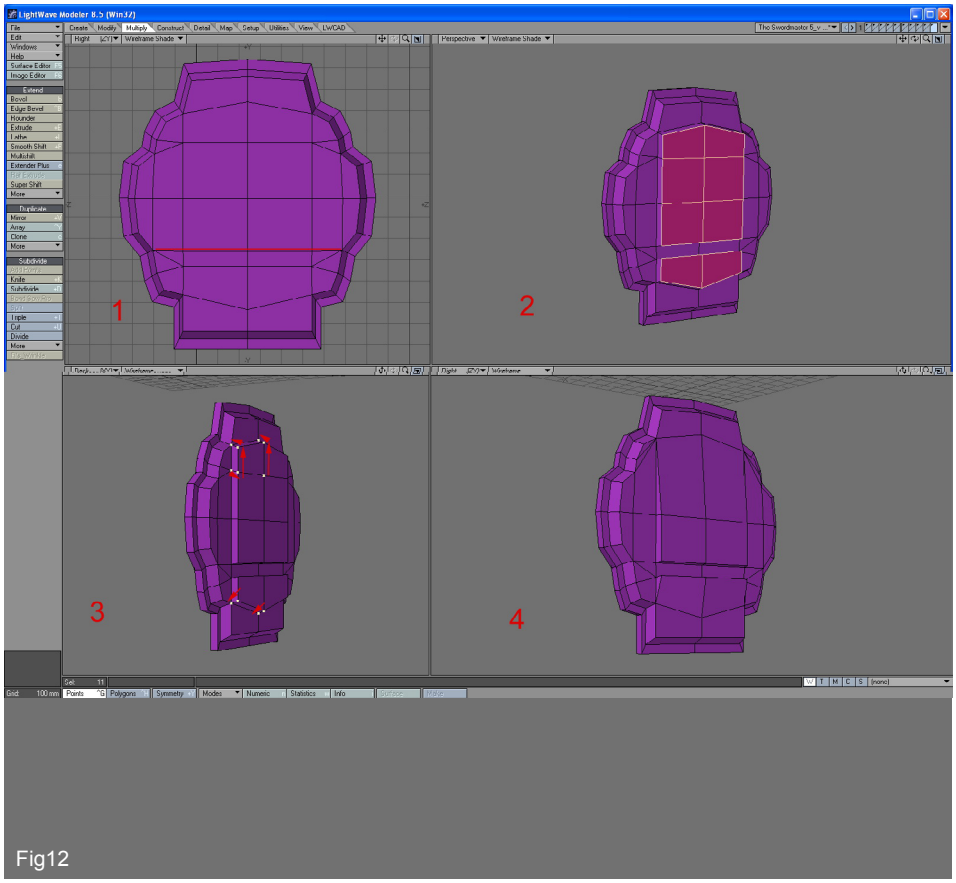
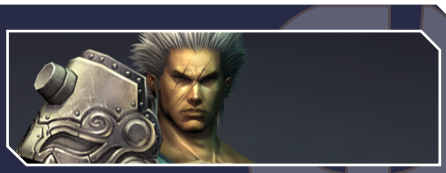


Fig12

12. Add Cut like its marked red in part 1 of the image. Select polygons marked red in part 2, extend them and move them outward. Weld points groups in order shown in part 3 on both sides of the model. Part 4 shows ending result.



13. Readjust the shoulder armour where is needed. Bend it and position it in it's place.

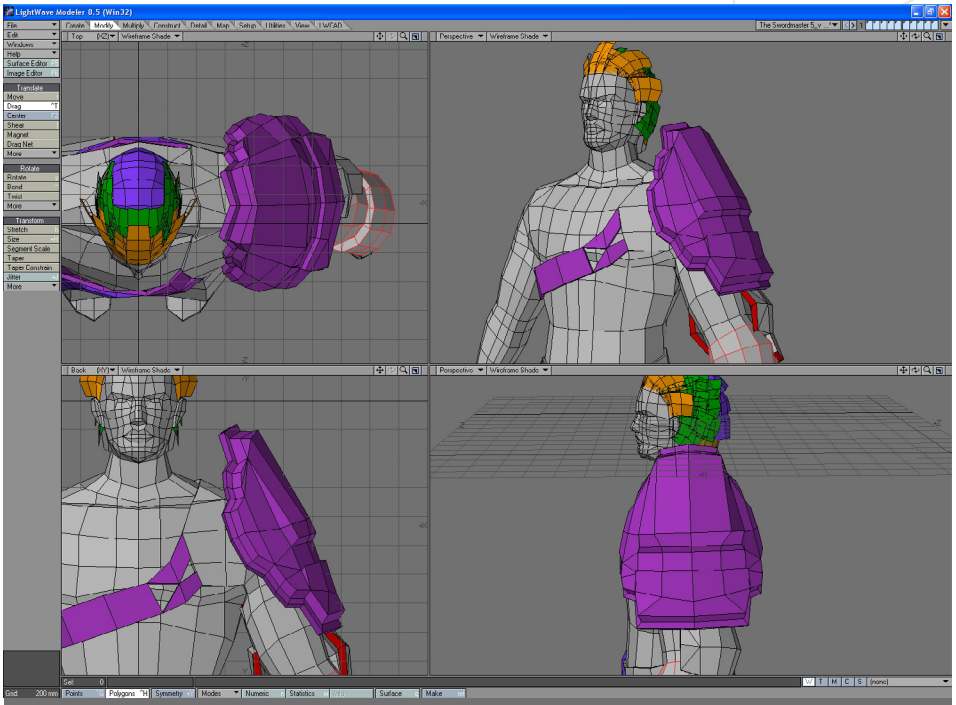


Fig13

14. Add details to the belt and armour like in image.

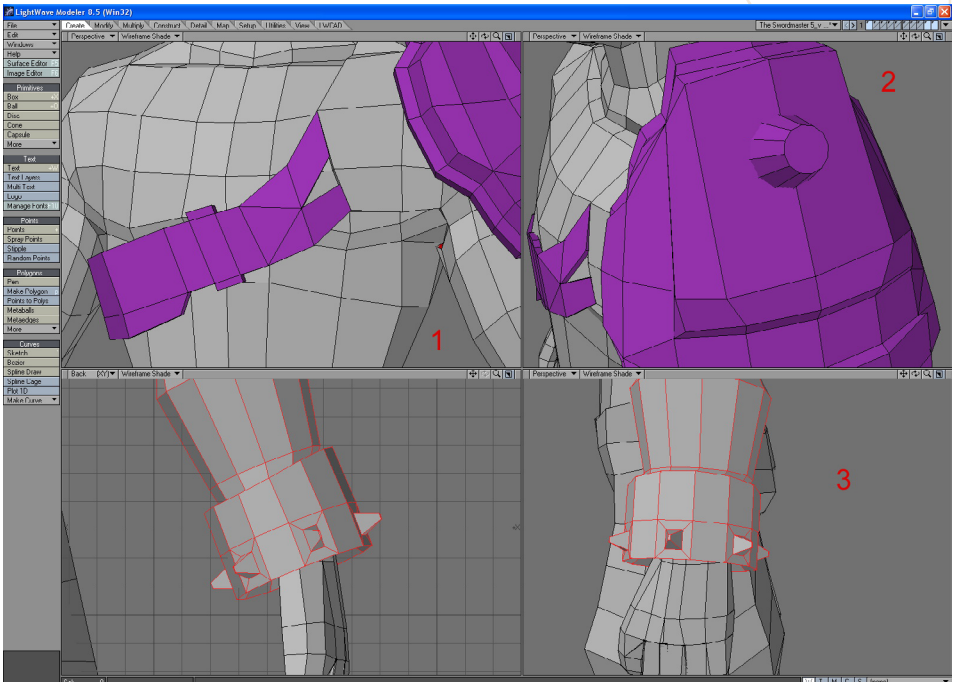
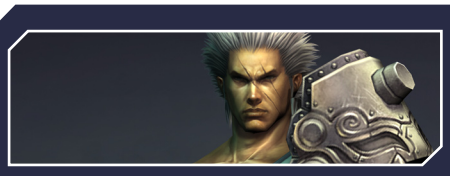
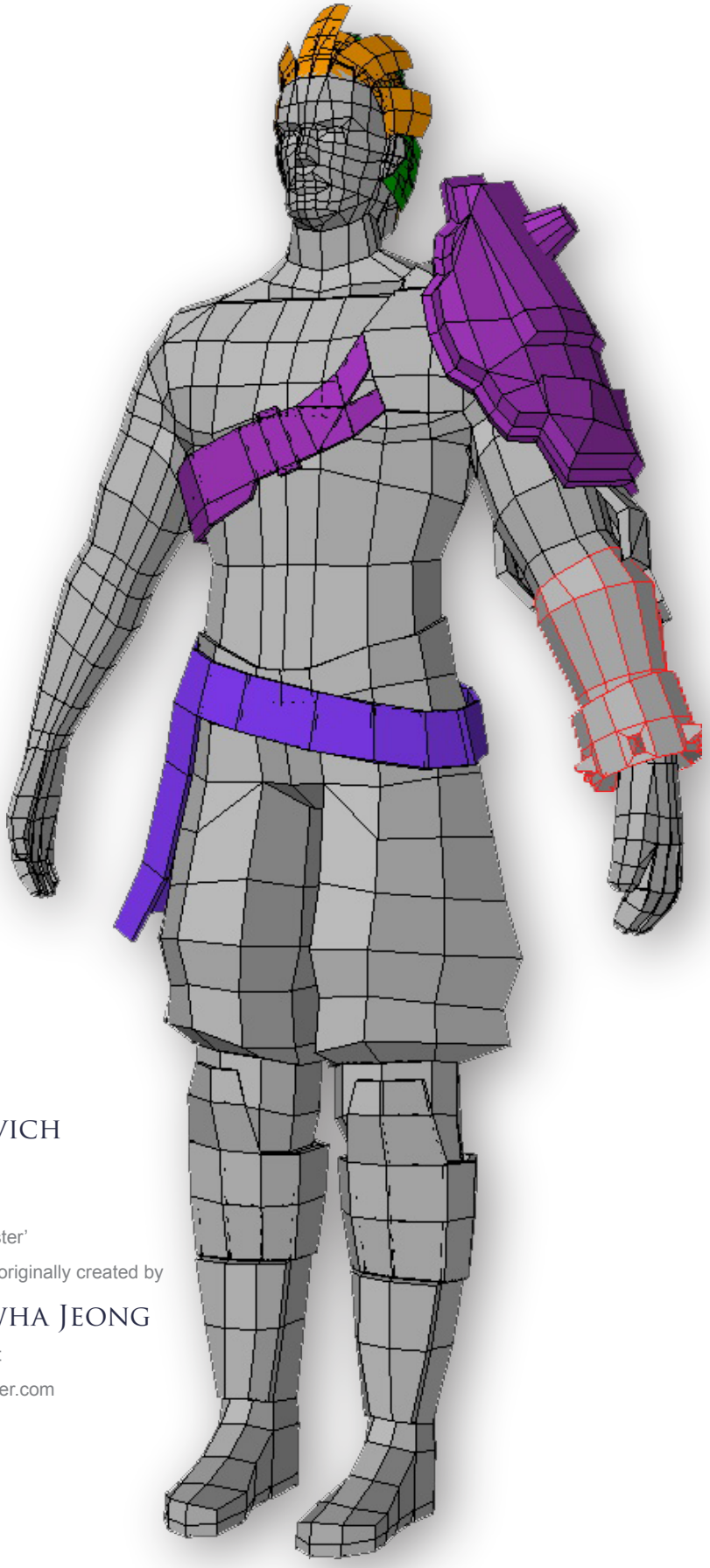
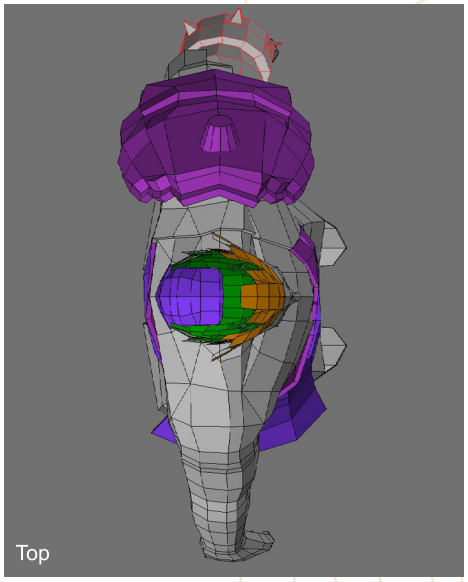
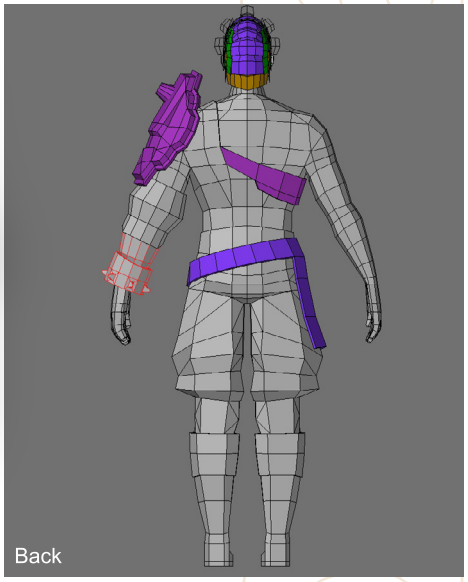


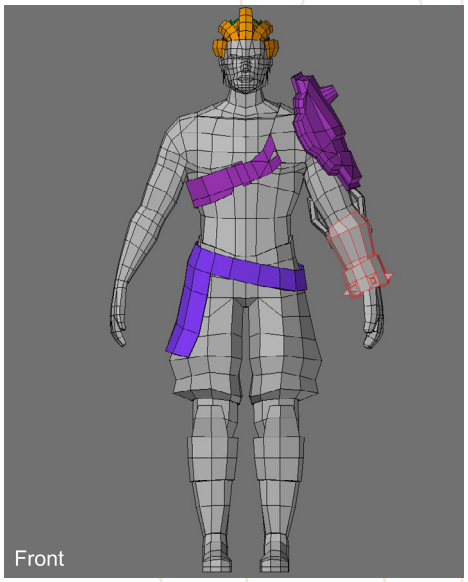
Fig14











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The 'Swordmaster' Character was originally created by

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Issue 014 October 06

Mapping & Unwrapping

Issue 015 November 06

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Issue 016 December 06

Texturing the Armour & Clothing

Enjoy ...

Part 5
Modeling the Armour

Welcome to the fifth instalment in the series which will provide a step by step guide to building a low poly character based upon a model by Seong-Wha Jeong. Last month saw us adding clothing and hair and now we reach the last phase in the modelling section which will cover giving our warrior some armour to wear.

1. Open the last scene from the previous part. First we're going to rearrange some verts from the left hand. In Fig01 you'll see few red verts that were moved in different position. Also the green lines are the 4 new edges that were added on the front and on the back side of our model. This will help us to get a good definition of the armour.

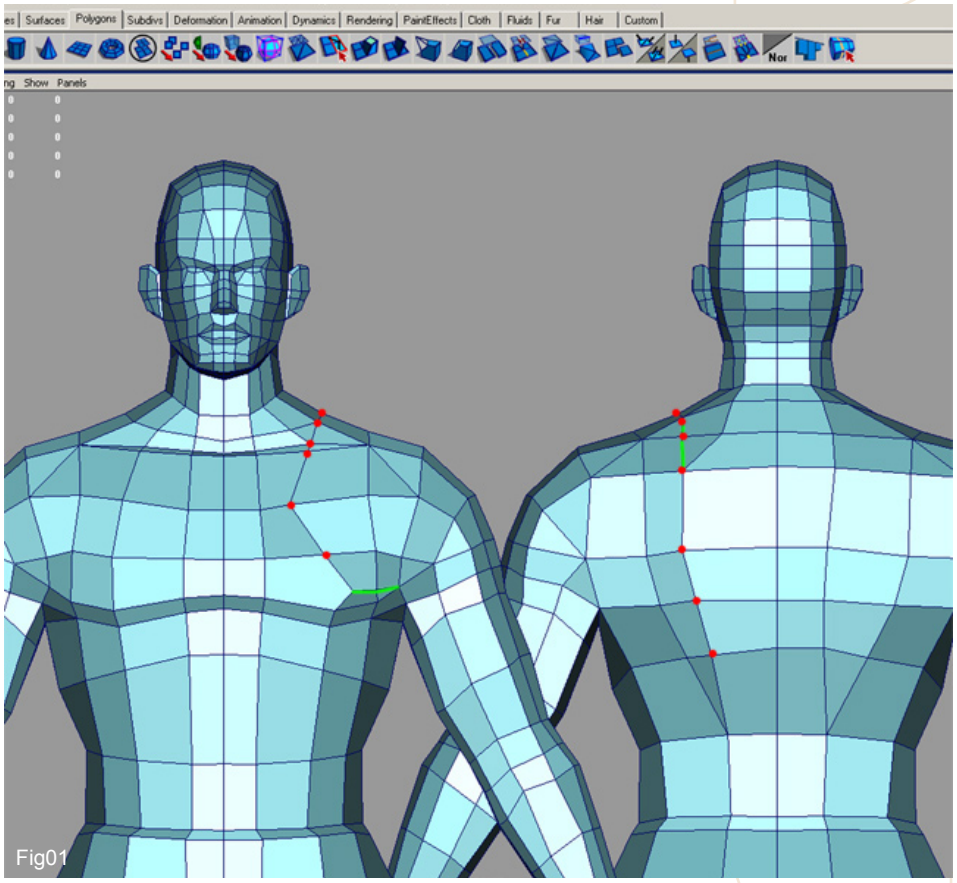
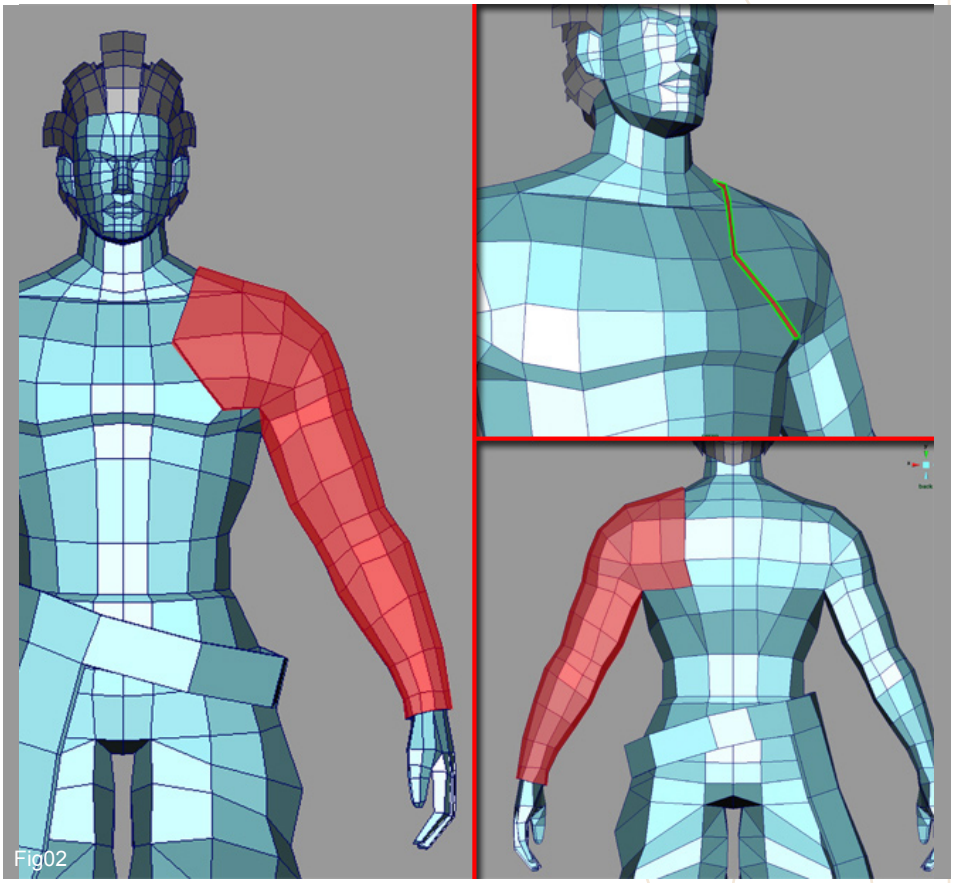
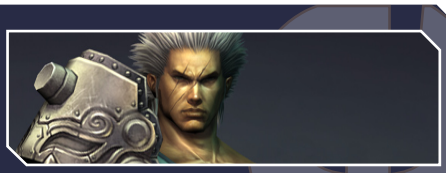


Fig01

2. Now select all the faces marked red in Fig02 and extrude them outward a little bit. After extrusion you'll have to move some edges back in order to obtain a well defined border for the armour (green edges should be almost in the same plane). Also under the arm, at the intersection between the arm and the body is possible to have some superposed faces. Arrange those verts too. Check if the hand is natural going down from the arm. If not move it in to the right position.


Fig02



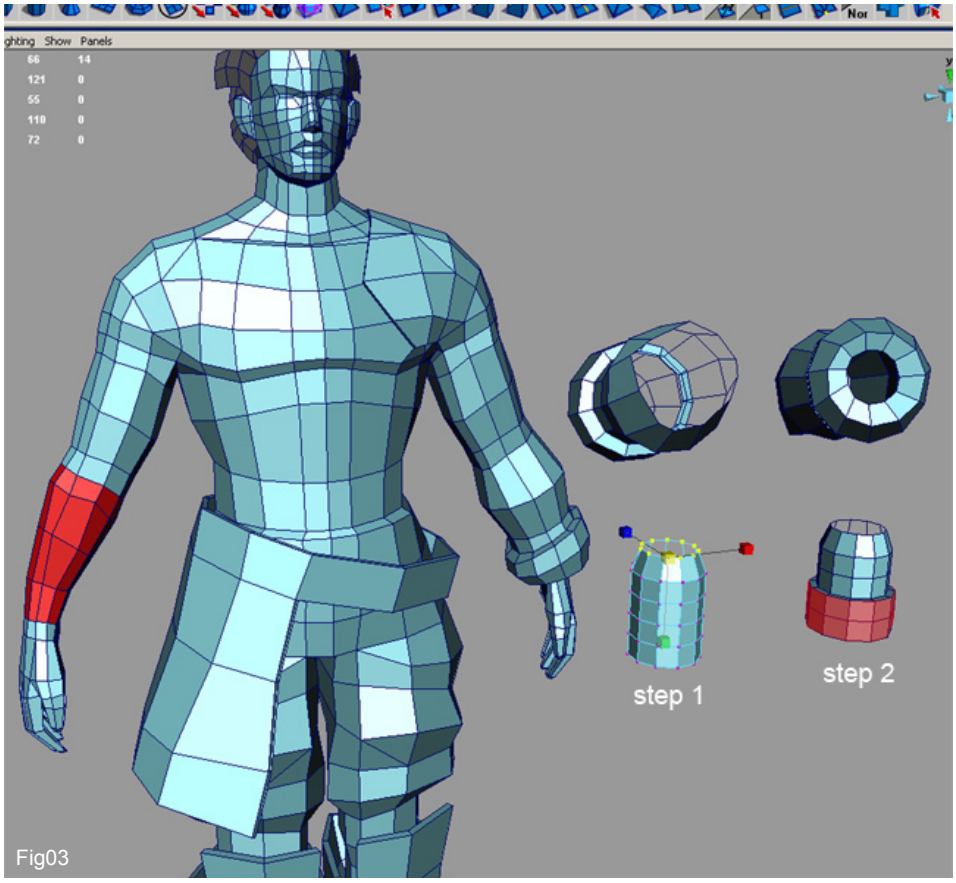


Fig03

3. Let's make the forearm part of the armour. Delete the highlighted red poly's but from the other arm where we are building the armour. Then create a cylinder with 11 X 5 faces and delete the top and bottom faces (Fig03). Now step 1 scale inward the upper row of verts. Step 2 extrude the red faces outward. Now place the cylinder into position between the elbow and the wrist, and snap the upper and bottom verts to the elbow and to the wrist. Rearrange the verts to get a nice shape which is fitting well to your arm.

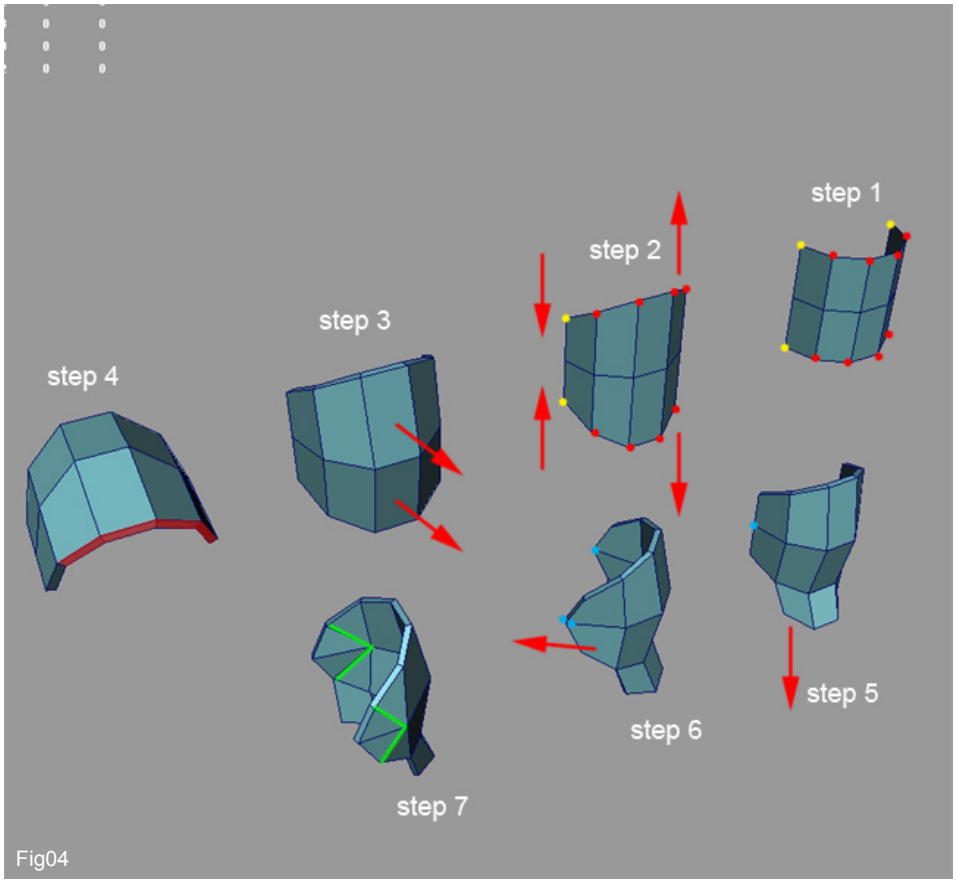


Fig04

4. The elbow guard. We're going to make it in seven steps as in Fig04. Step 1: create half of a cylinder. Step 2: Pick the 4 yellow verts and scale them downward. Pick the 8 red verts and scale them upward to get that shape as in Fig04 - step 2. Step 3: extrude all the faces forward in the normals directions. Step 4: select the four faces highlighted in red. Step 5: extrude them downward and scale them a little bit. Step 6: Pick the 4 blue verts and move them outward. And in the end, step 7, add 8 new edges as shown in Fig04 - step 7.

5. After you've finished modelling the guard, move it right behind the elbow and arrange it to fit well into position and rearrange the verts to obtain a nice wrapping around the elbow.

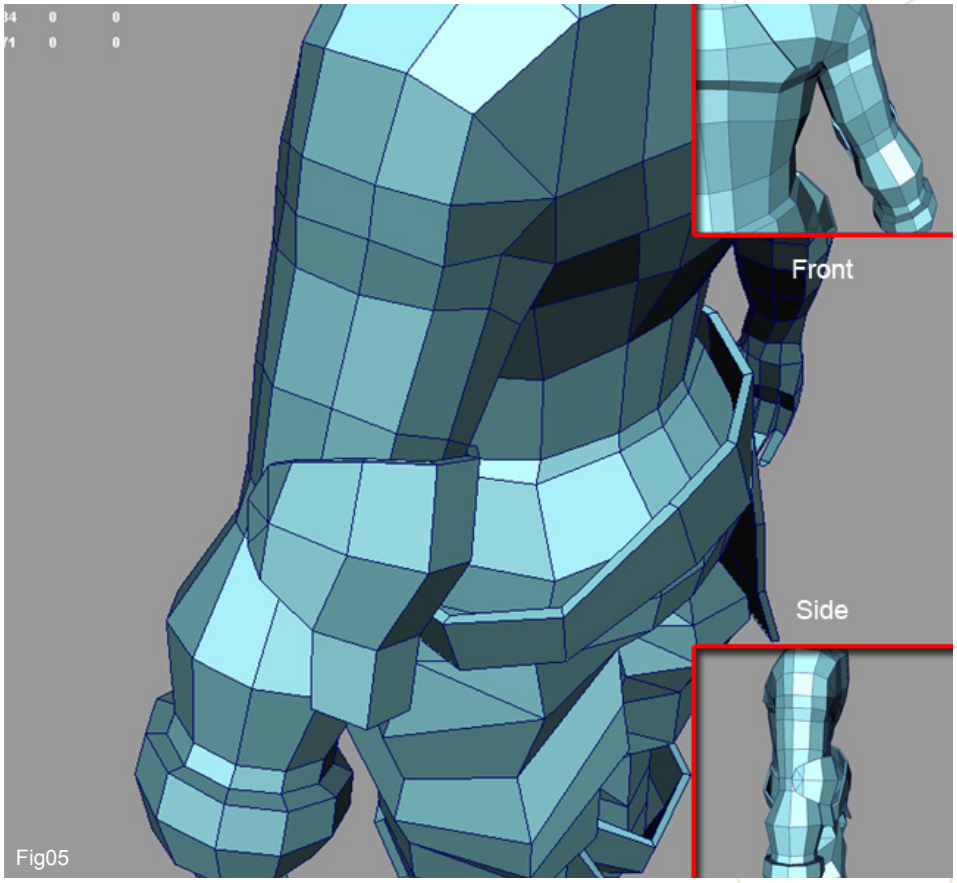


Fig05

6. Now we're going to make a strap around the chest. For this select the swordmaster's body an make it "Live" by selecting the magnet shown by the arrow in the Fig06. The "Live" option allows you to draw curves right onto the body and it is following the exact shape of the body. Once you've made the body live, start drawing the curve from the back to the front. Pick the "EP Curve Tool" and start adding points around the chest. Place the first point of the curve onto the middle of the face highlighted in red which give us the thickness of the armour. Notice that I didn't draw the curve right to the front part of the armour because there I'm going to split the strap in two parts.

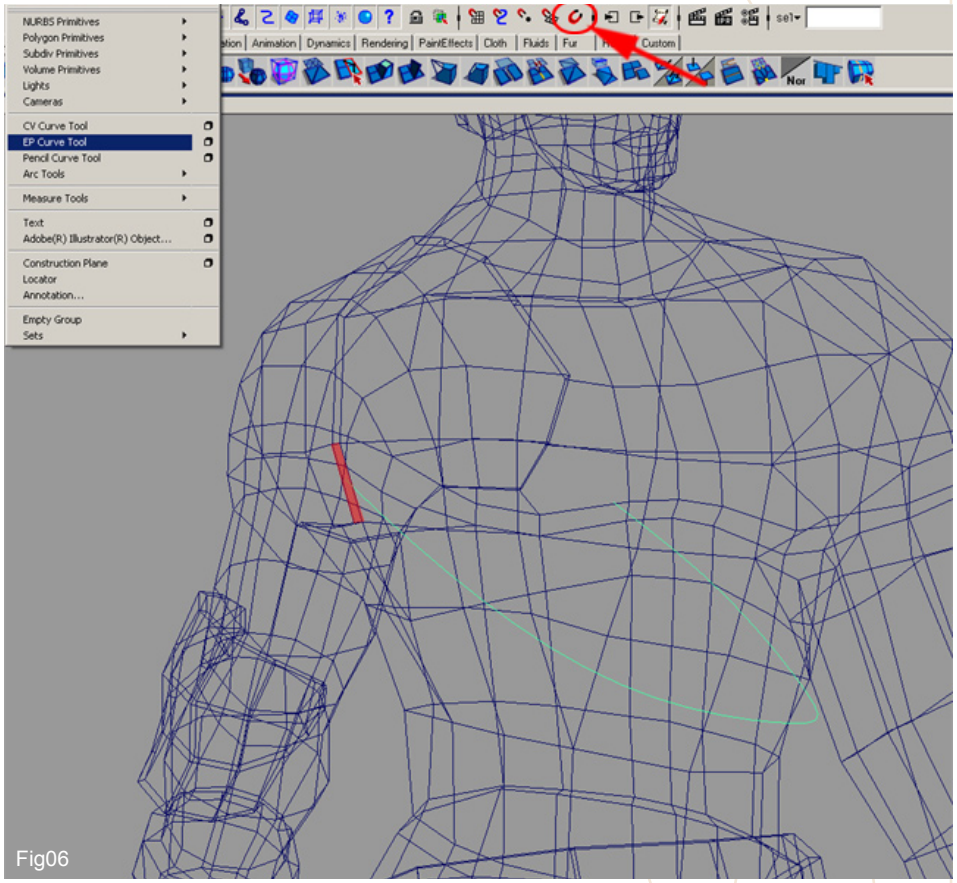
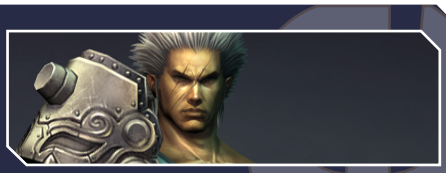


Fig06



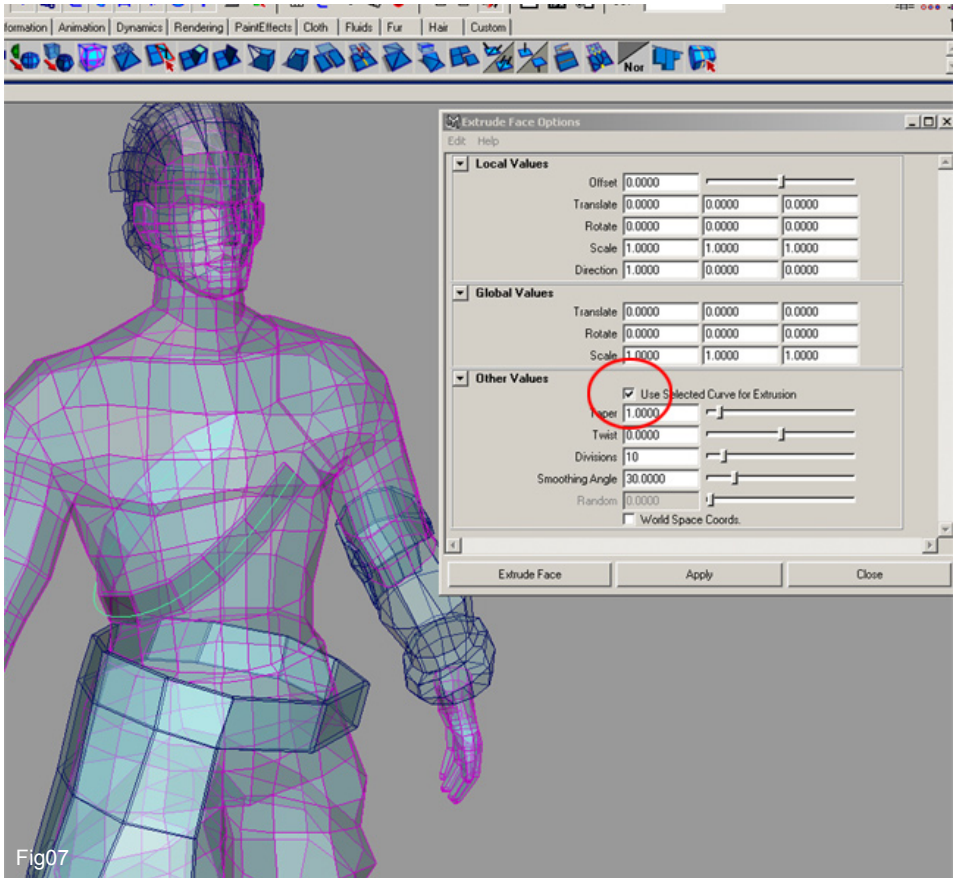
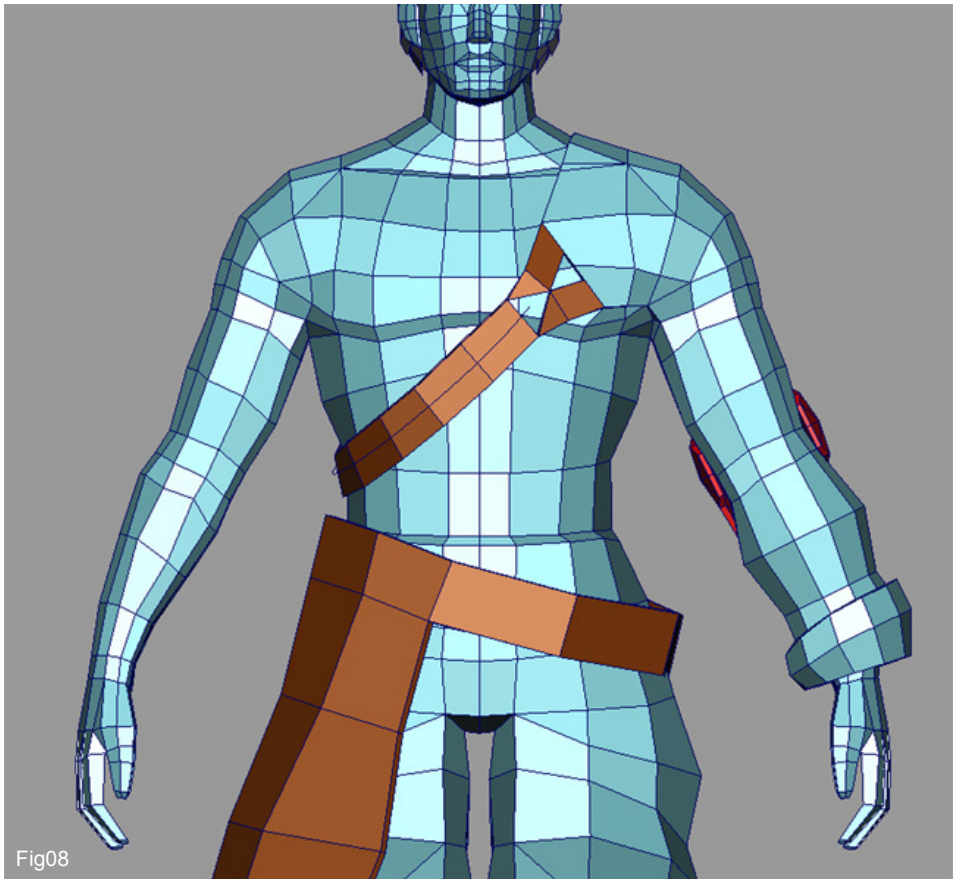


Fig07

7. Select the face from the back and the curve and extrude the face along the curve. Verify if in the “Extrude Face Options” window you have active “Use Selected Curve for Extrusion”. After extrusion rearrange the verts to have them wrapped nice around the chest.


Fig08

8. Then add two more straps Snap their verts to the armour and to the end of the bigger strap (Fig08). I have made the straps by 2 basic cubes without doing anything fancy, just snapping and rearranging the verts.

9. Last piece is the shoulder armour. First create a surface like the one I've done in Fig09. Then extrude it a little bit for a bit of depth.

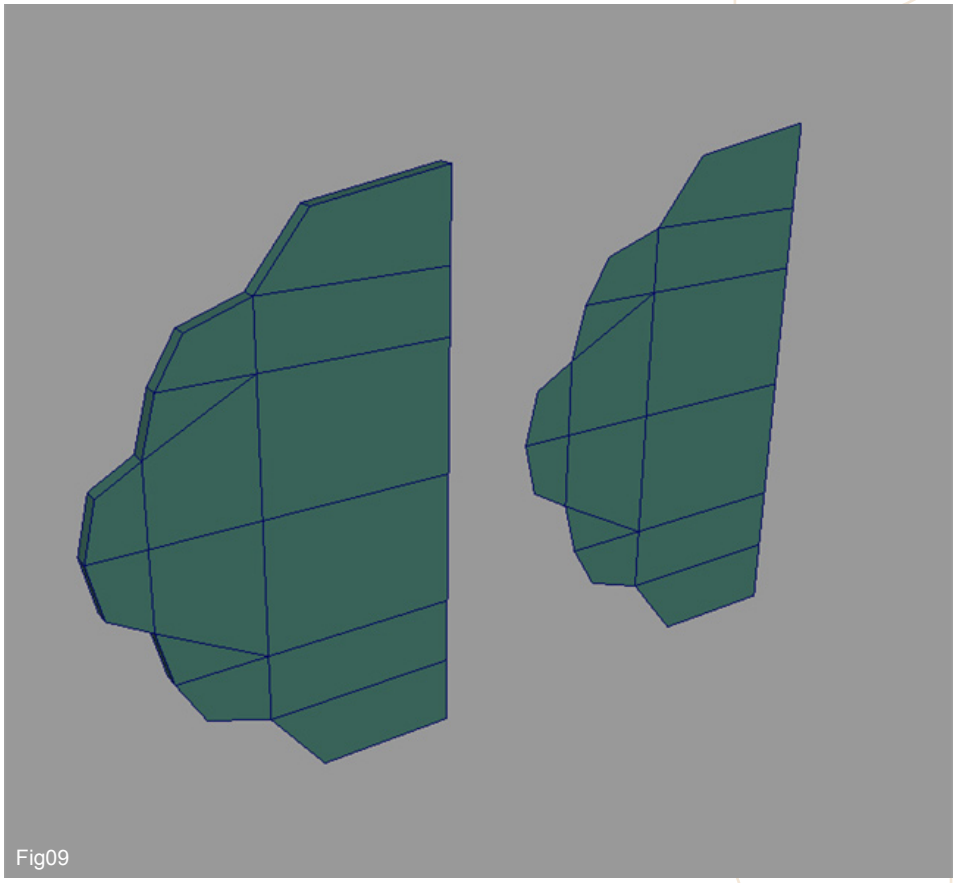


Fig09

10. Now duplicate the surface and merge those two pieces together. Then select the faces as in Fig10 and extrude them but without moving, just scale the extruded faces inward as shown in the picture (Fig10).

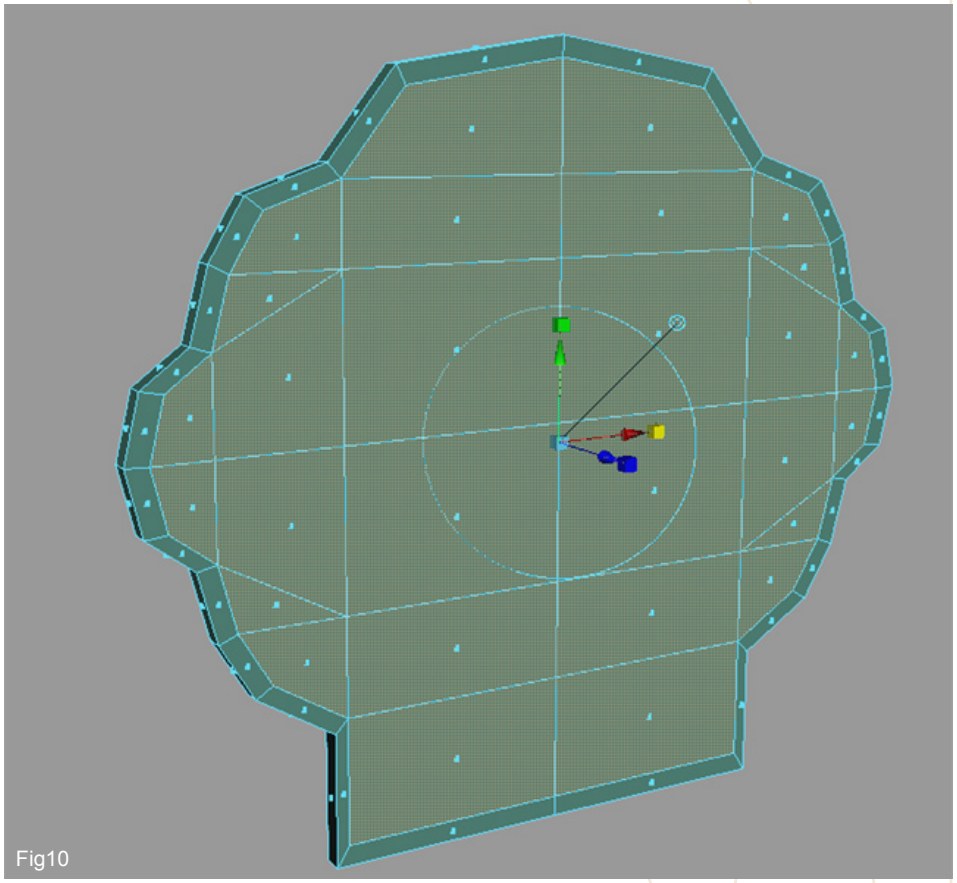
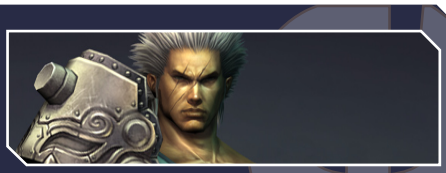


Fig10



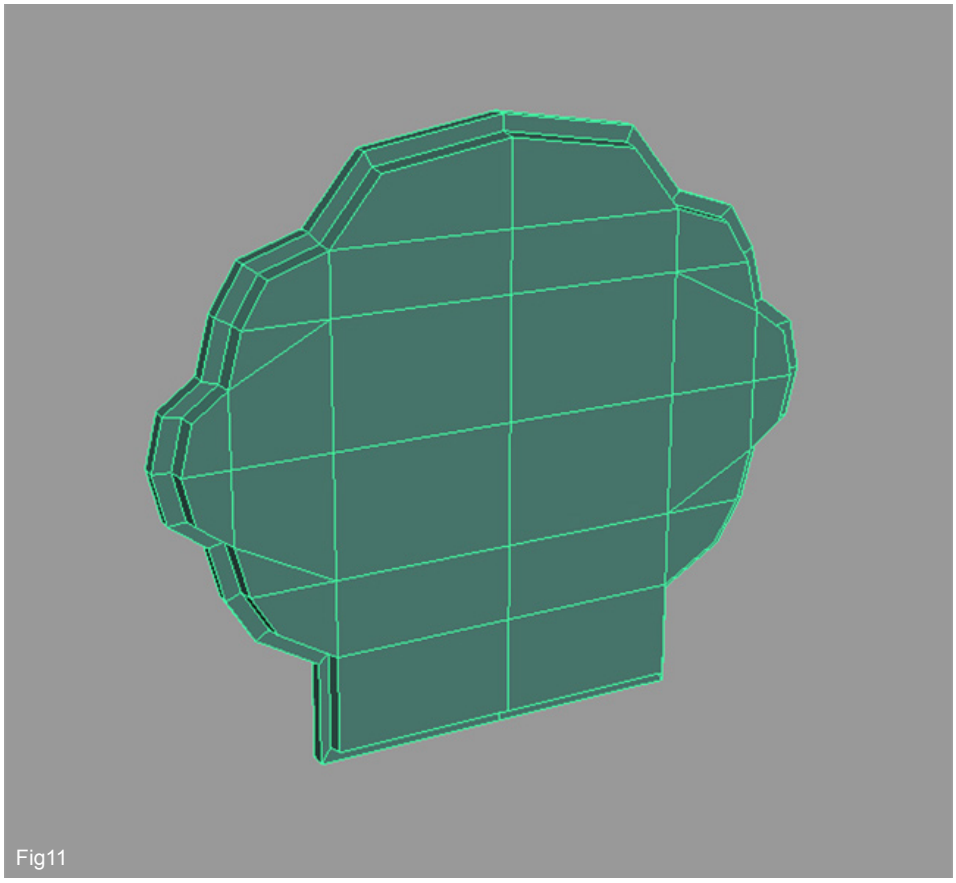


Fig11

11. Now extrude the selected faces once again but this time outward as in Fig 11.

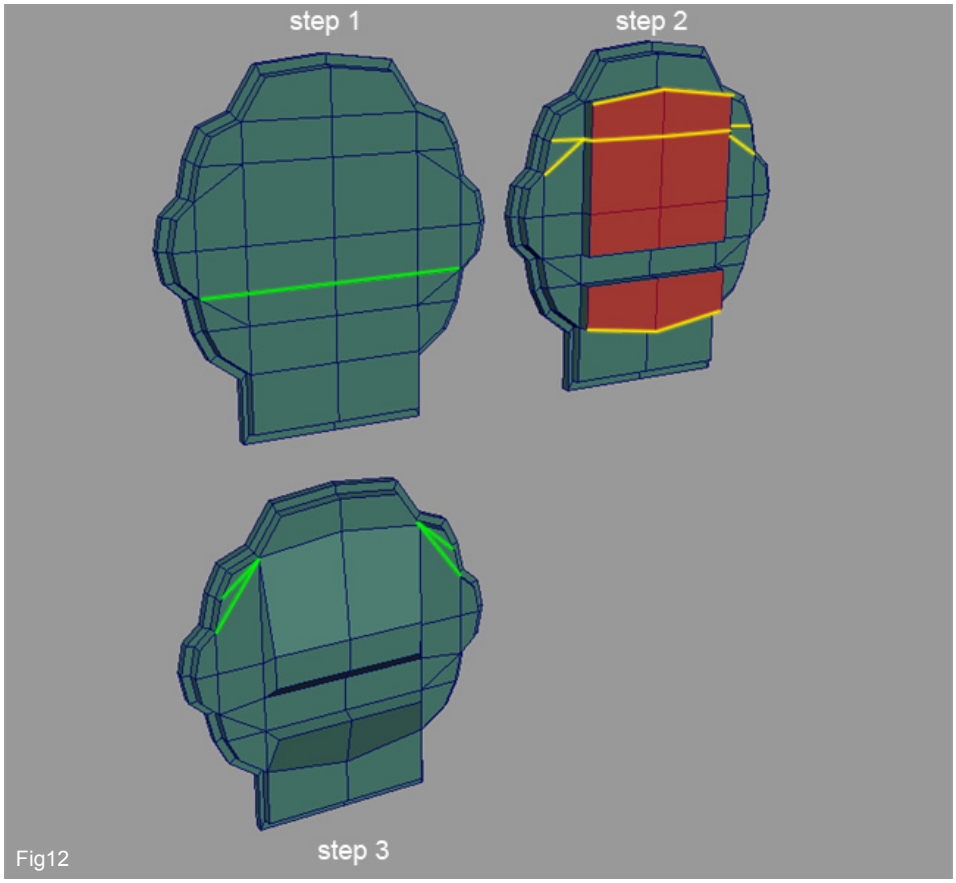


Fig12

12. We're going to add some details to the armour as in Fig12. Step 1: add a new edge as the one highlighted in green. Step 2: now select the faces highlighted in red and extrude them outward. Then delete the yellow edges and don't forget to delete the verts after you've finished with the edges. On step 3 add four more edges as the green lines in the Fig12 - step 3.

13. Make two new splits as highlighted in red in Fig13 then select the yellow verts and extrude them. Check the “polyExtrudeVertex” option from the “Channel box” for tuning extrusion’s dimensions.

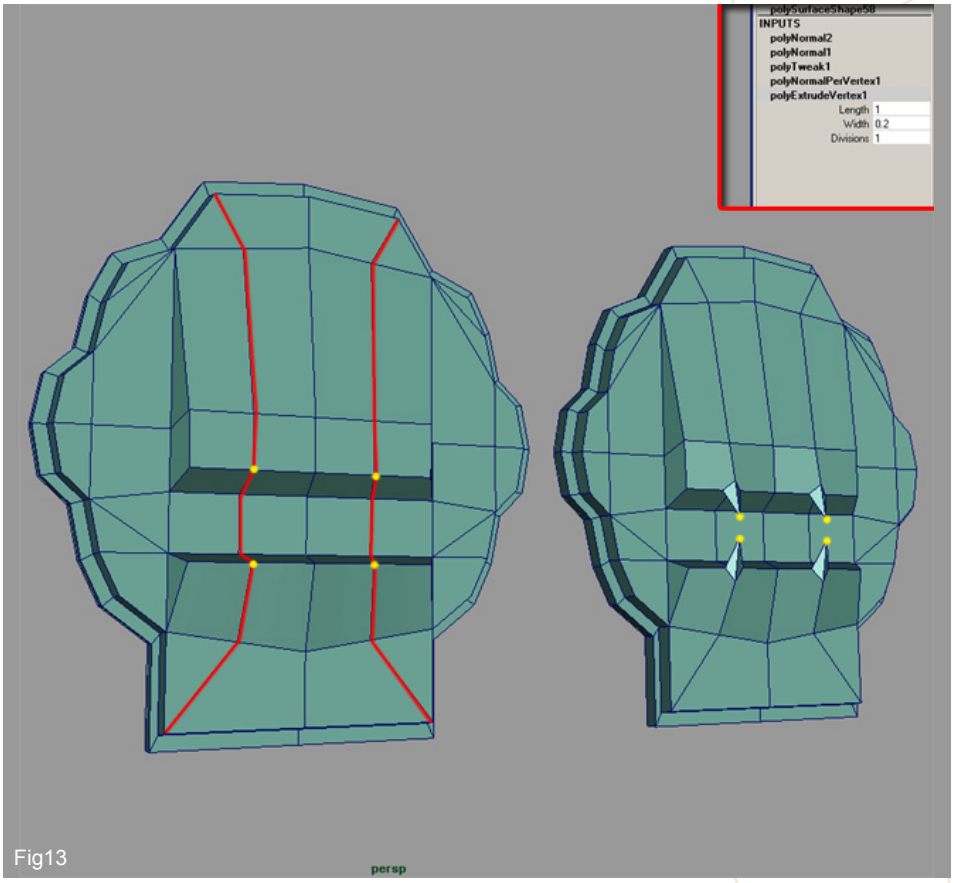


Fig13

14. Now all we have to do is to bend the armour to fit on the shoulder using “Bend” deformer and to add some more details. In Fig14 you can see that I added few polys to the strap (1), few studs around the wrist area (2) and I have added a cylinder to the shoulder area.

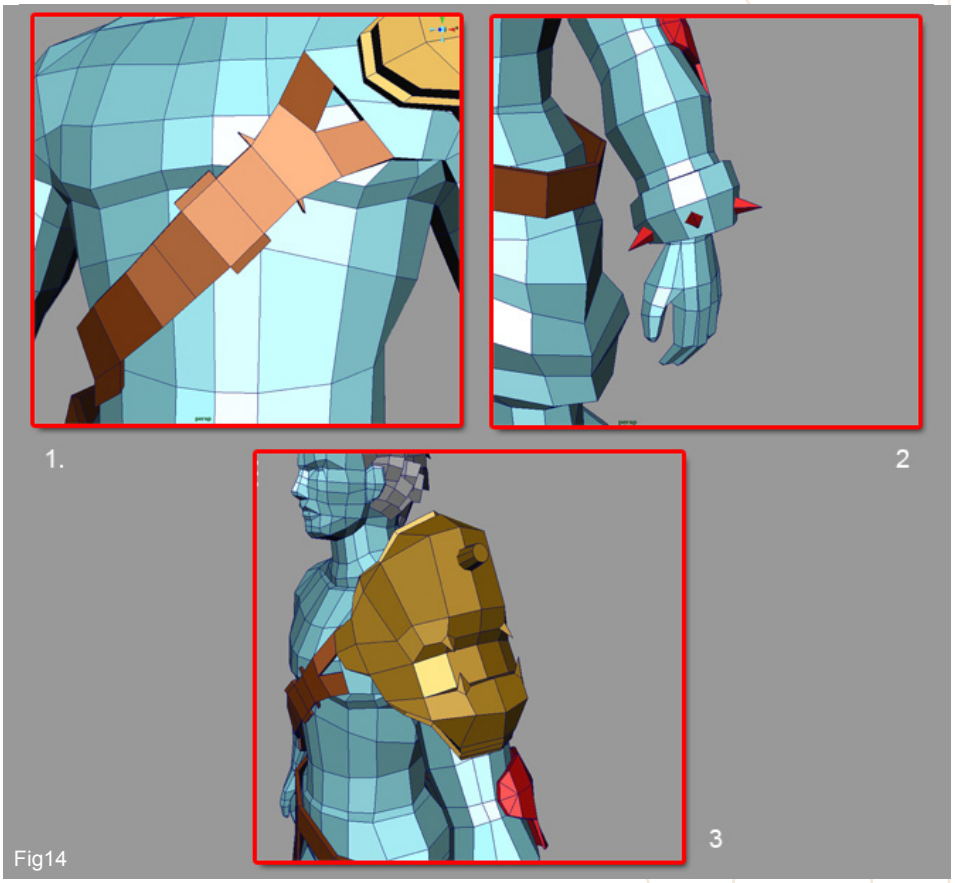
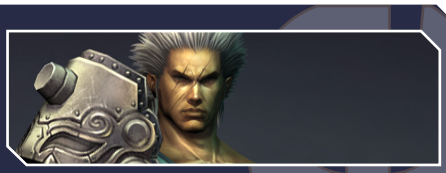
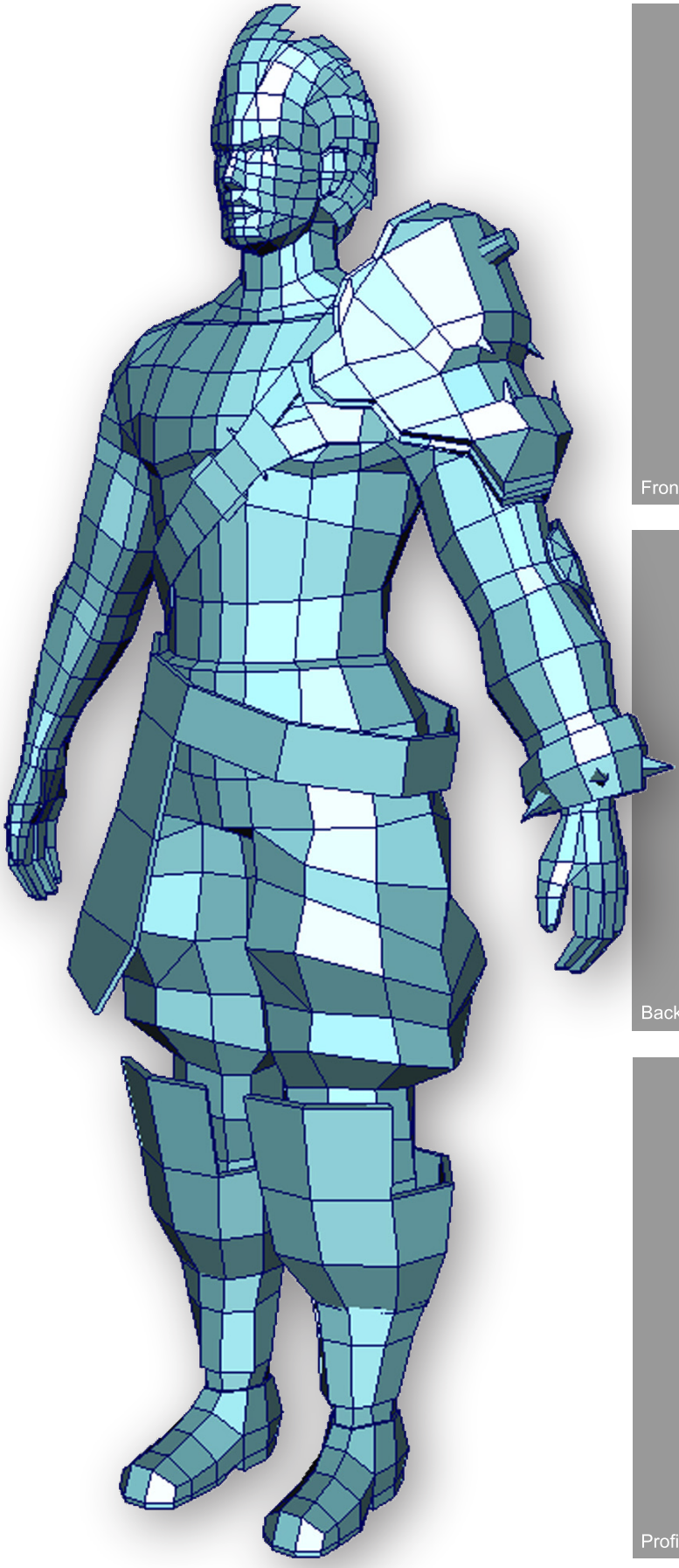
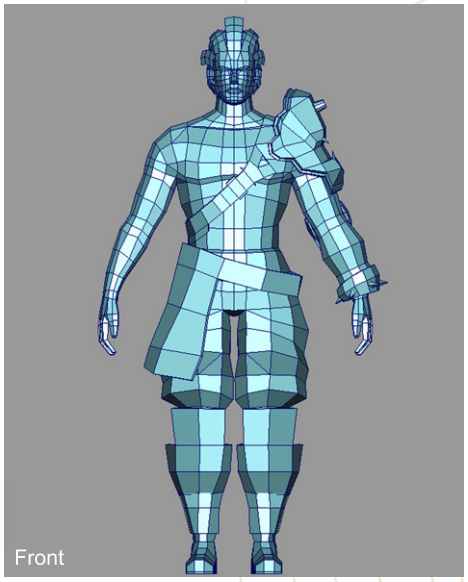
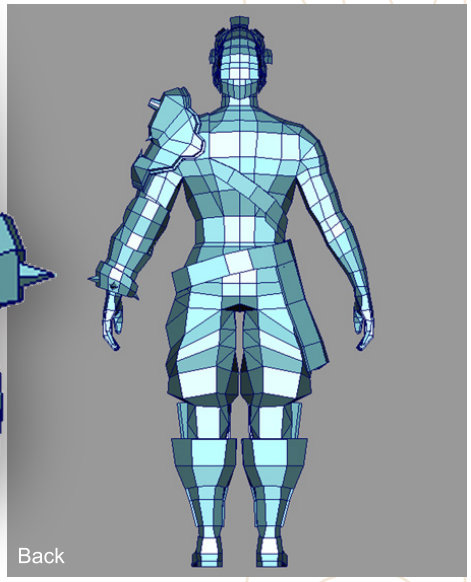


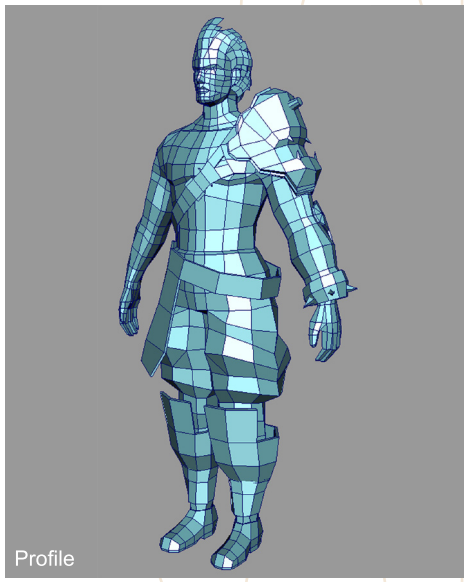
Fig14











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The Swordmaster

SOFTIMAGE|XSI

Is our new precise, step by step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have had the tutorial created for the 5 major 3d applications, but even if you are not a user of one of them, the principles should be easily followed in nearly all other 3d applications. Over the next 8 months we will outline in detail the process for creating the 'Swordmaster' you see on the left. The schedule for the different parts of the tutorial is as follows:

Issue 009 May 06

Modeling the Head

Issue 010 June 06

Modeling the Torso

Issue 011 July 06

Modeling the Arms & Legs

Issue 012 August 06

Modeling the Clothing & Hair

Issue 013 September 06

Modeling the Armour

Issue 014 October 06

Mapping & Unwrapping

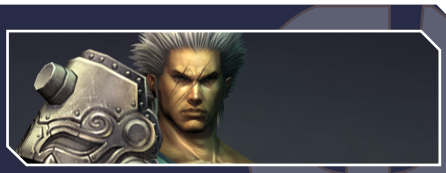
Issue 015 November 06

Texturing the Skin & Body

Issue 016 December 06

Texturing the Armour & Clothing

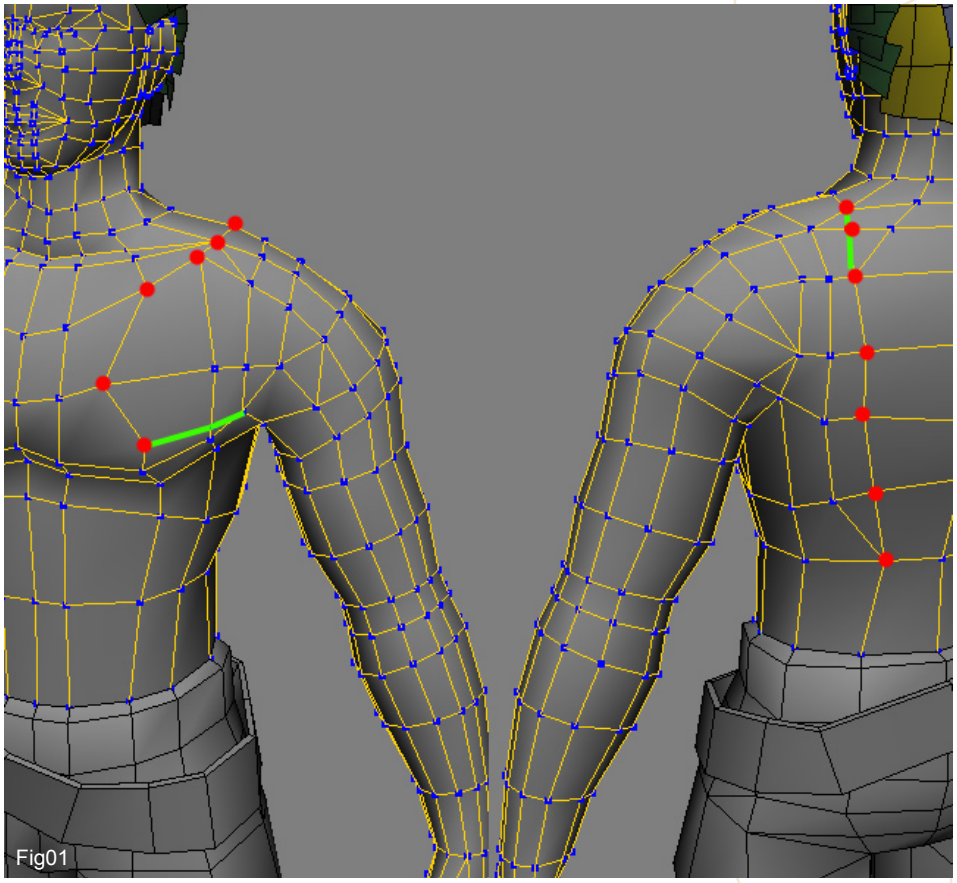
Enjoy ...



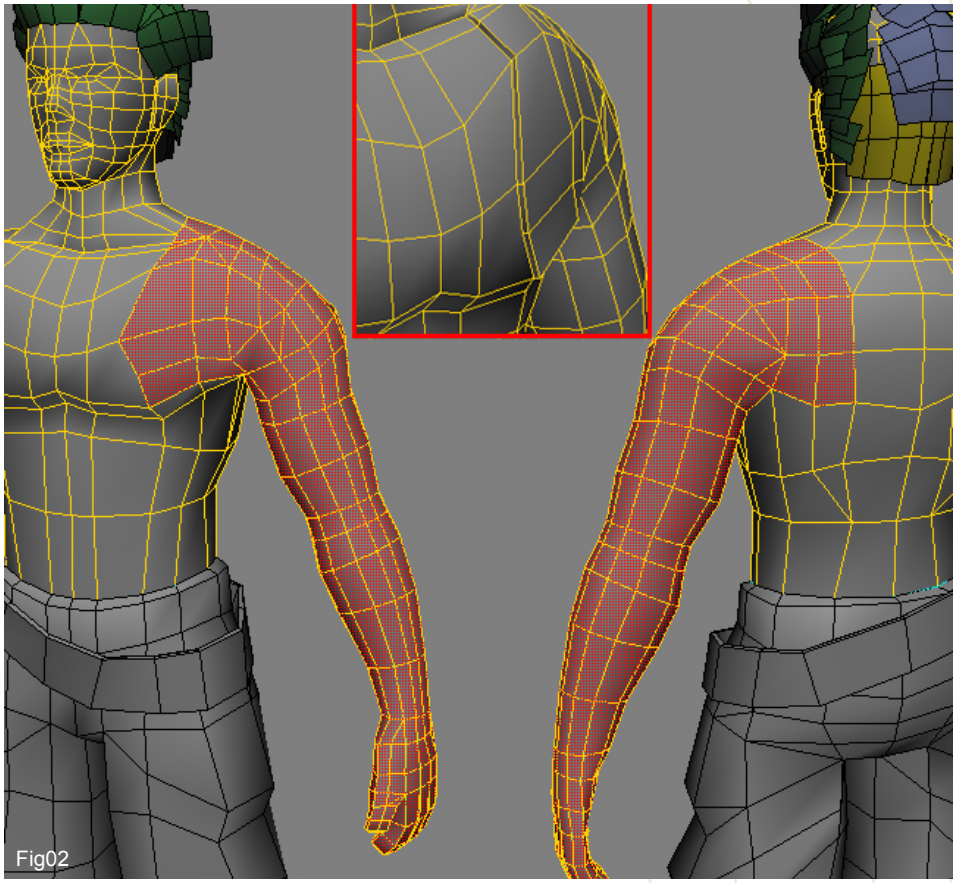
Part 5
Modeling the Armour

Last month we added some cloth and hair to the character. This time we will create the armour pieces.

1. Adjust the vertices marked in red in Fig01, and add the cuts marked in green.


Fig01

2. Select the polygons that will make up the armour (Fig02), duplicate them with Ctrl + D short-cut and then apply a Push operator to slightly extrude them.


Fig02

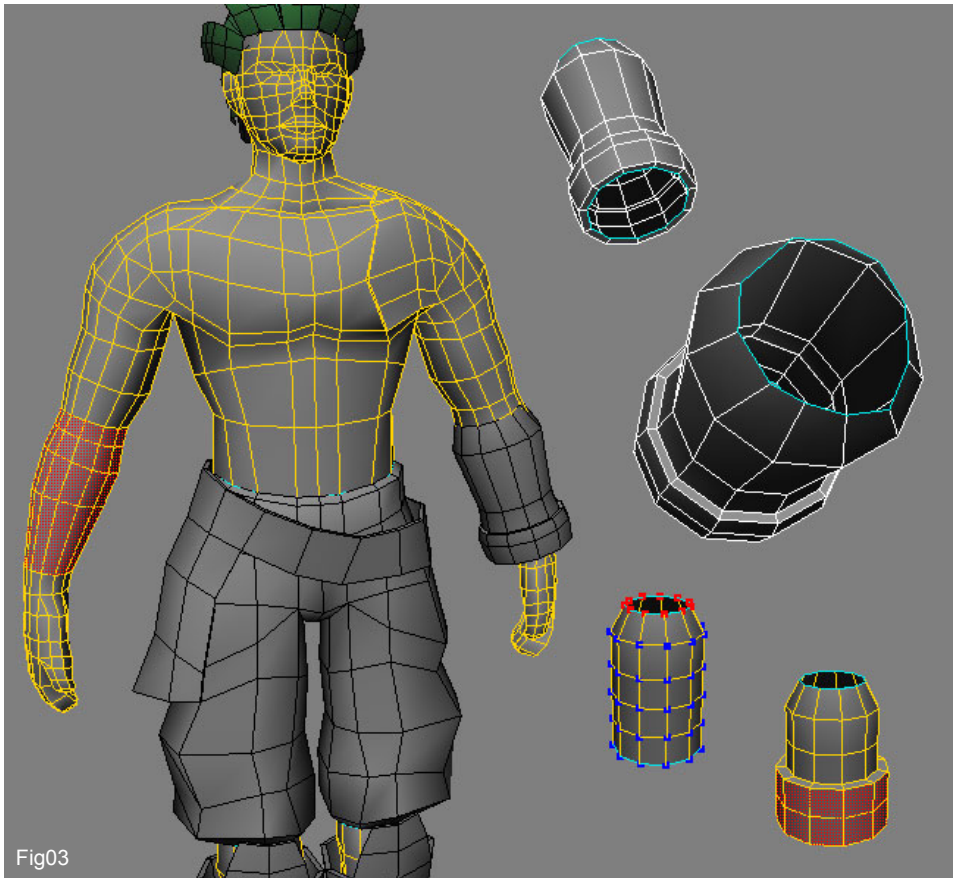


Fig03

3. Delete the polygons marked in red in left part of Fig03; now create a cylinder and delete its top and base. Scale the top row of vertices like shown, and add an extrusion in the lower part of the cylinder. Finally, position it on the arm.

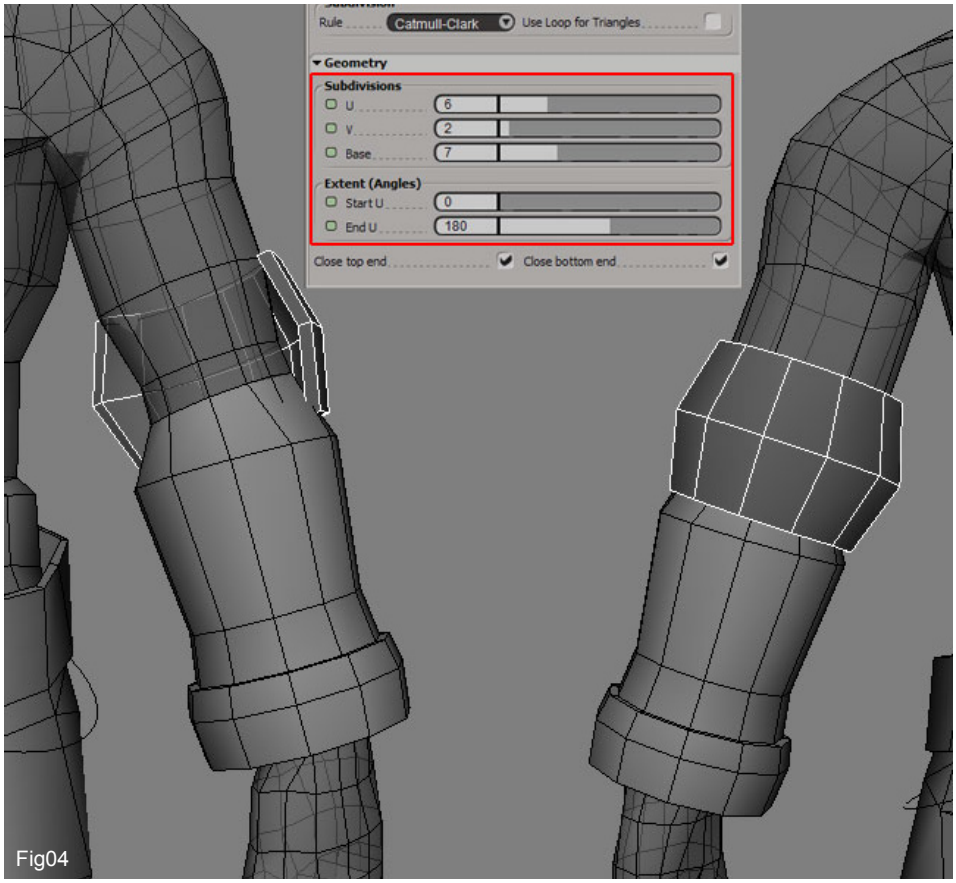
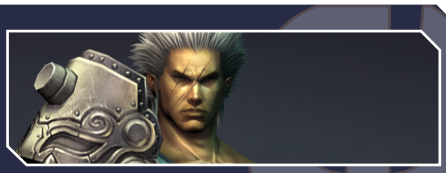


Fig04

4. Now let's make the elbow guard; it's similar to the knee guard. Create a cylinder following the parameters in the central part of Fig04, then position it over the elbow and reshape it a bit like shown in Fig04. Also, make sure to extrude it internally to add thickness.



5. Extrude the lower part of the elbow guard. Also, extrude the polygons marked in red in Fig05 and add 4 new cuts like shown.

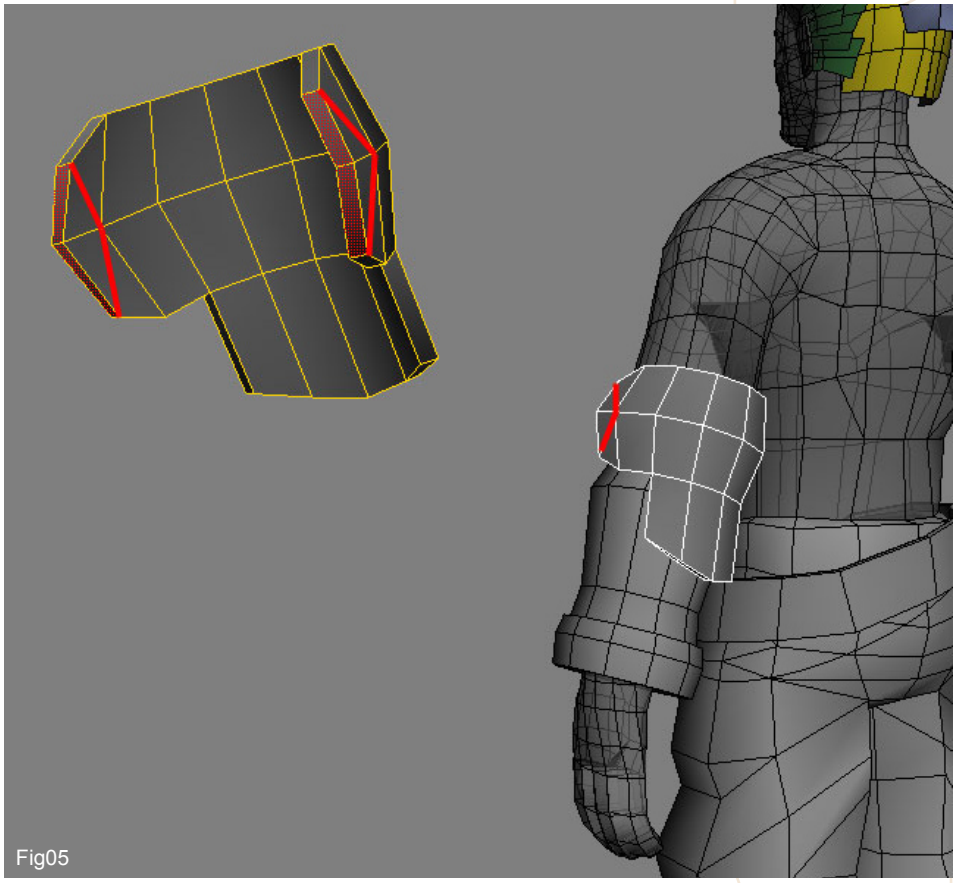


Fig05

6. Now on to the strap. Create a spline with Draw Linear tool; it should wrap around the whole chest, from back to front. Create a rectangle like shown in Fig06, it will be used to create the strap mesh.

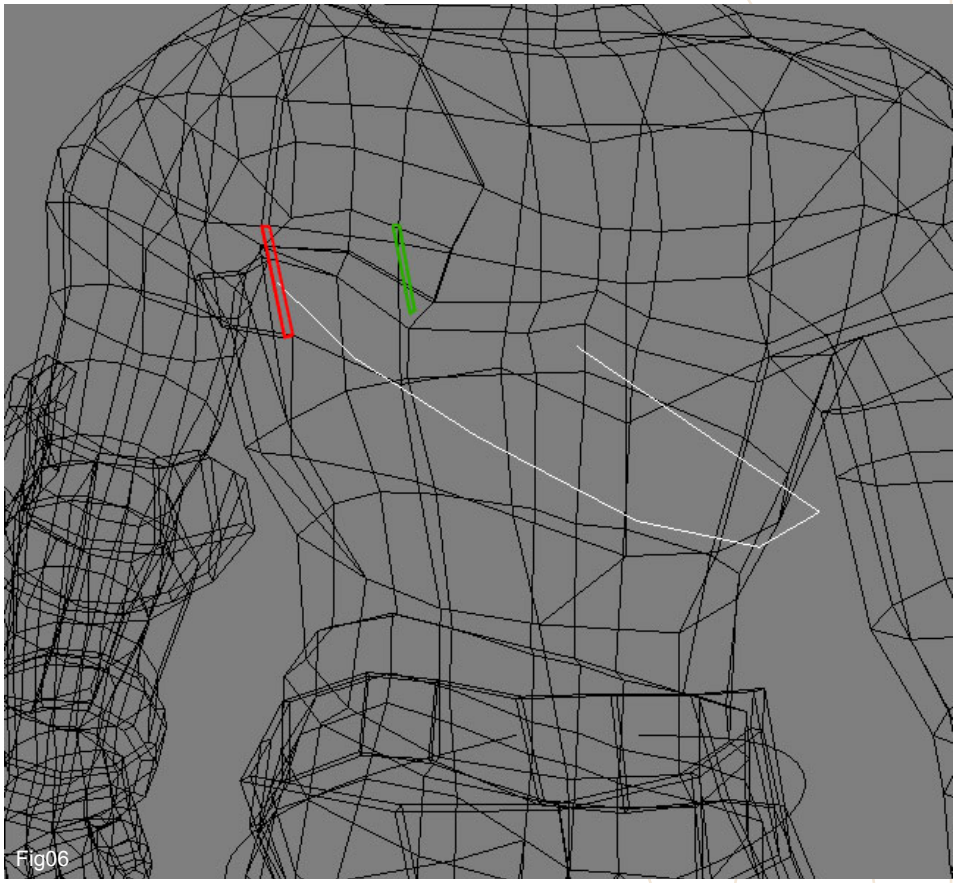


Fig06

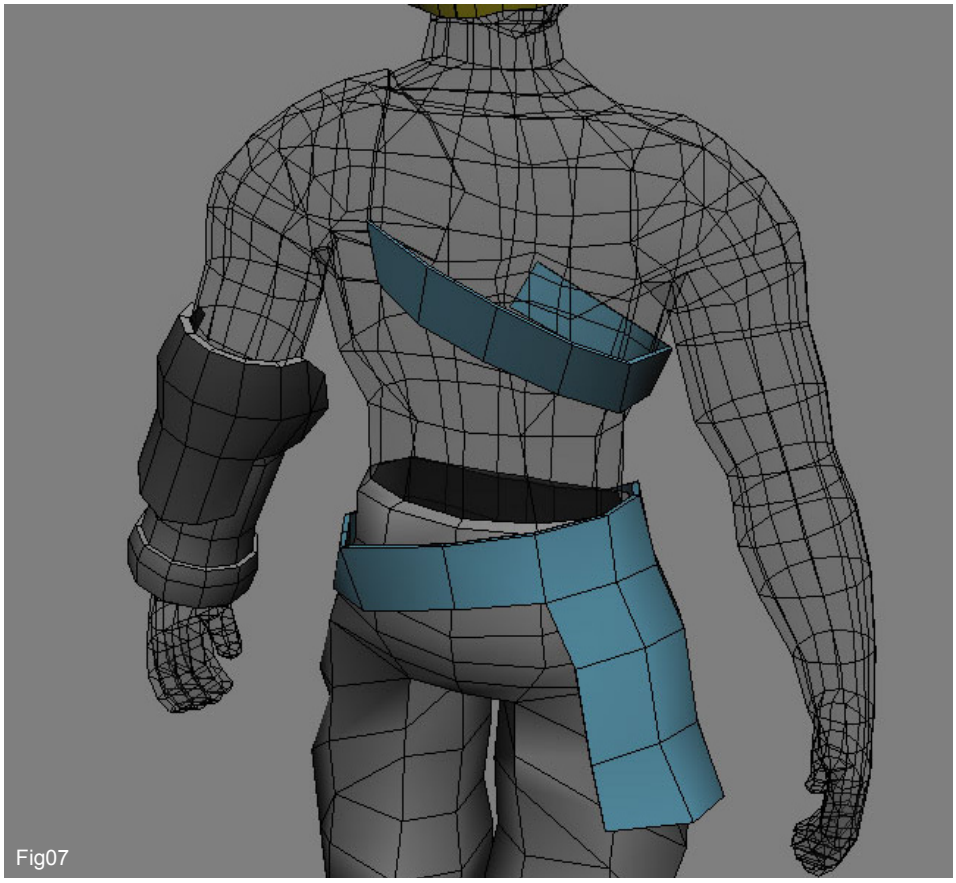


Fig07

7. Select the rectangle and use the Extrude Along Spline command to create the actual mesh of the strap, like shown in Fig07.

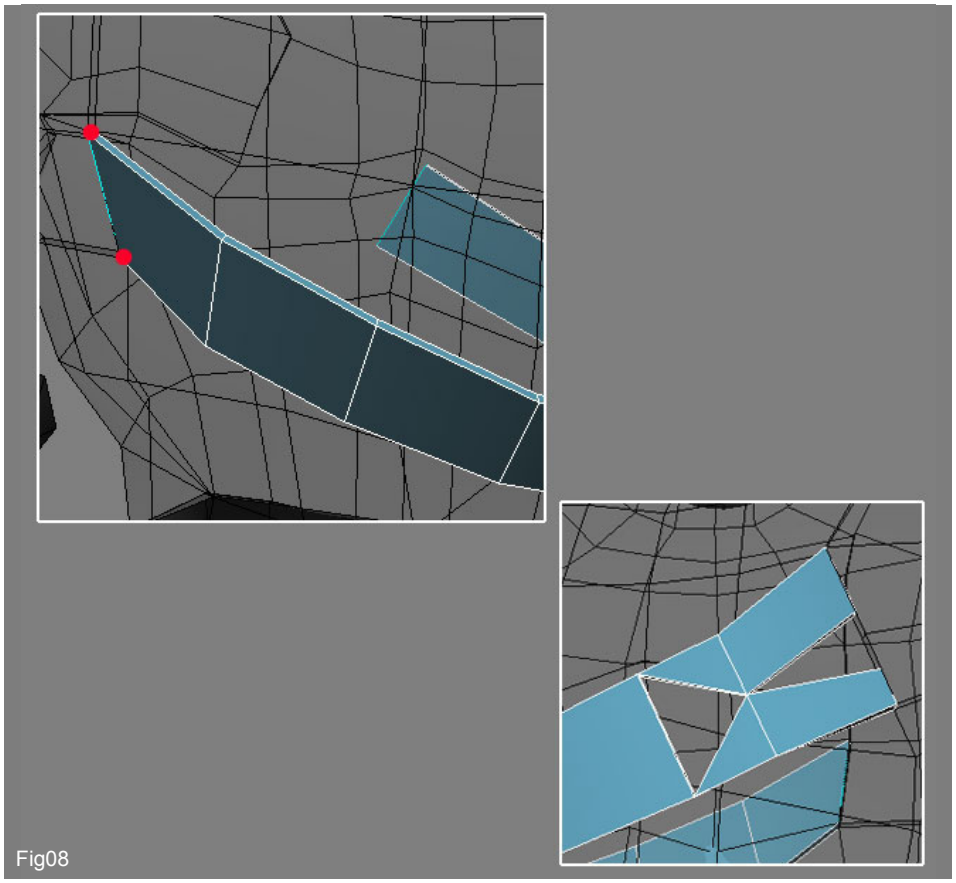
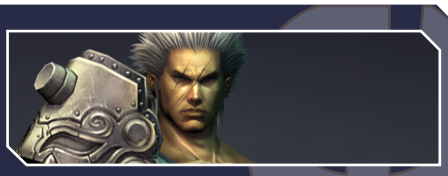


Fig08

8. Use the Snap tool to snap the vertices of the strap with the others on the body, like shown in Fig08. You can also add some extra detail extruding two smaller straps like in Fig08.



9. Let's go on with the final piece of the armour: the shoulder. Create a shape like the one in Fig09; you can start with a PolyMesh Grid, and go on moving vertices until you get something similar to Fig09. Also, extrude this shape a bit to give it some depth.

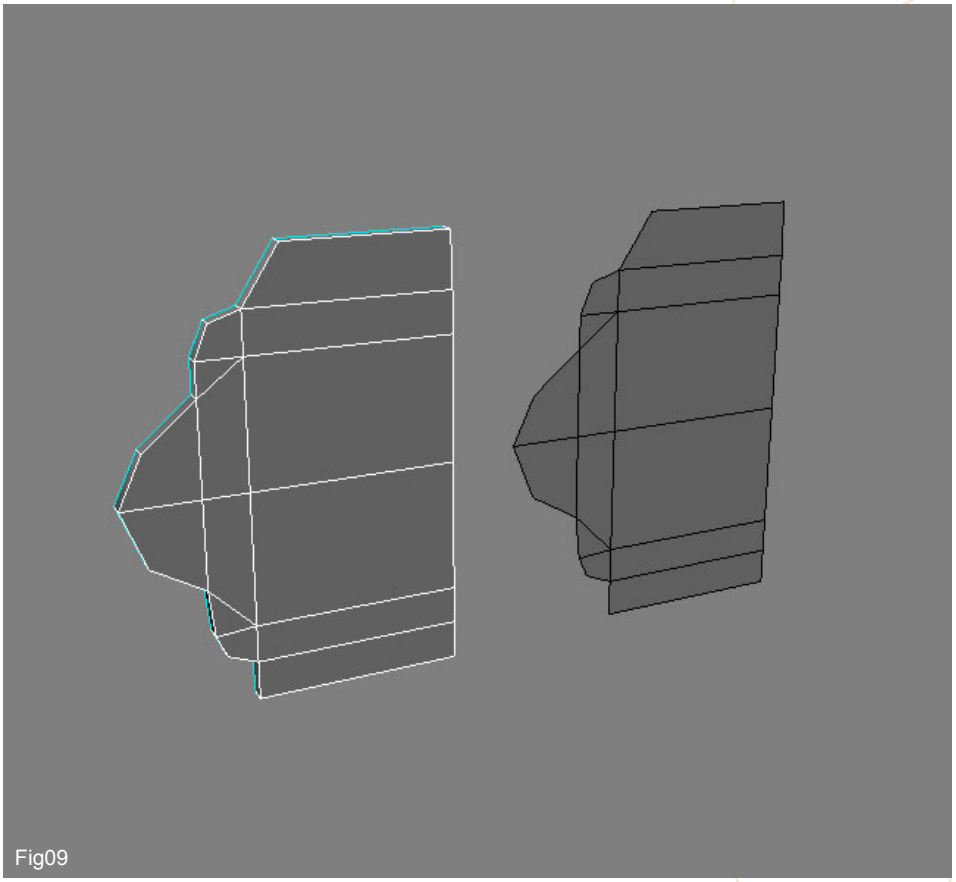


Fig09

10. Duplicate and make one half of the shape symmetrical to get the whole mesh. Merge the two halves with Merge tool (delete the original meshes) and Duplicate the polygons like shown in Fig10, scaling them down a bit.

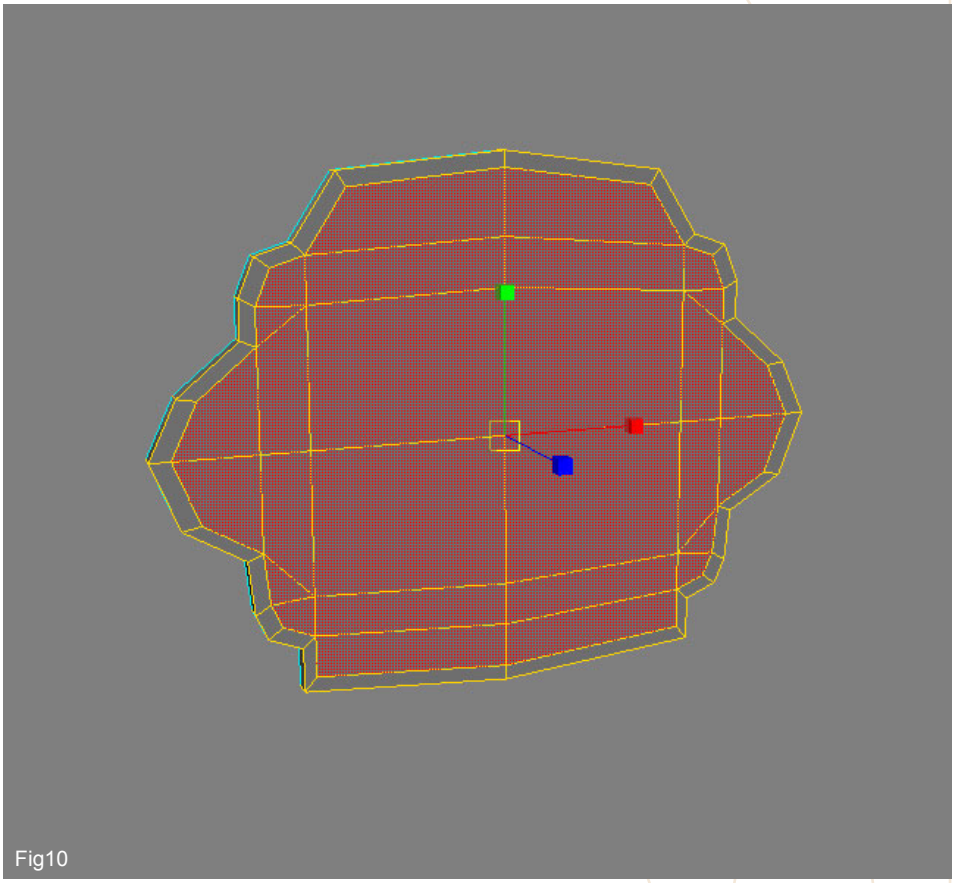


Fig10

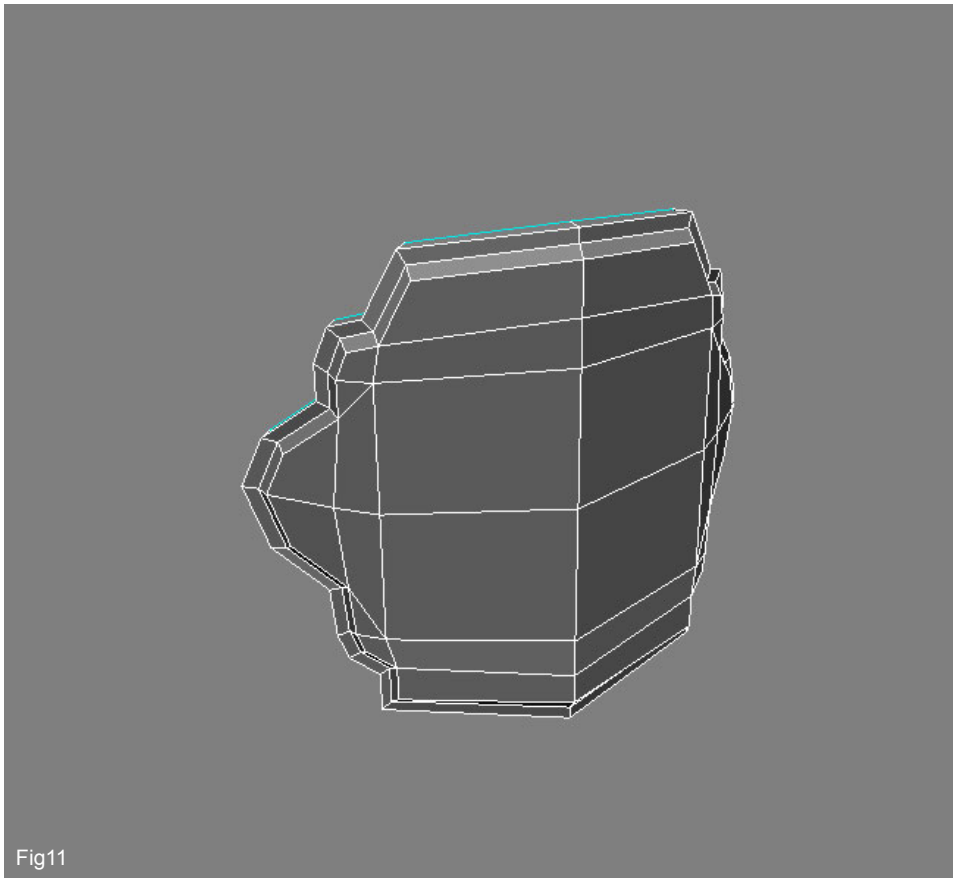


Fig11

11. Add another extrusion and scale the polygons again; you can also use Bevel operator to accomplish this task. Add a Bend operator to give the shoulder armour some curvature (just play around with the Bend parameters until you get something similar to Fig11).

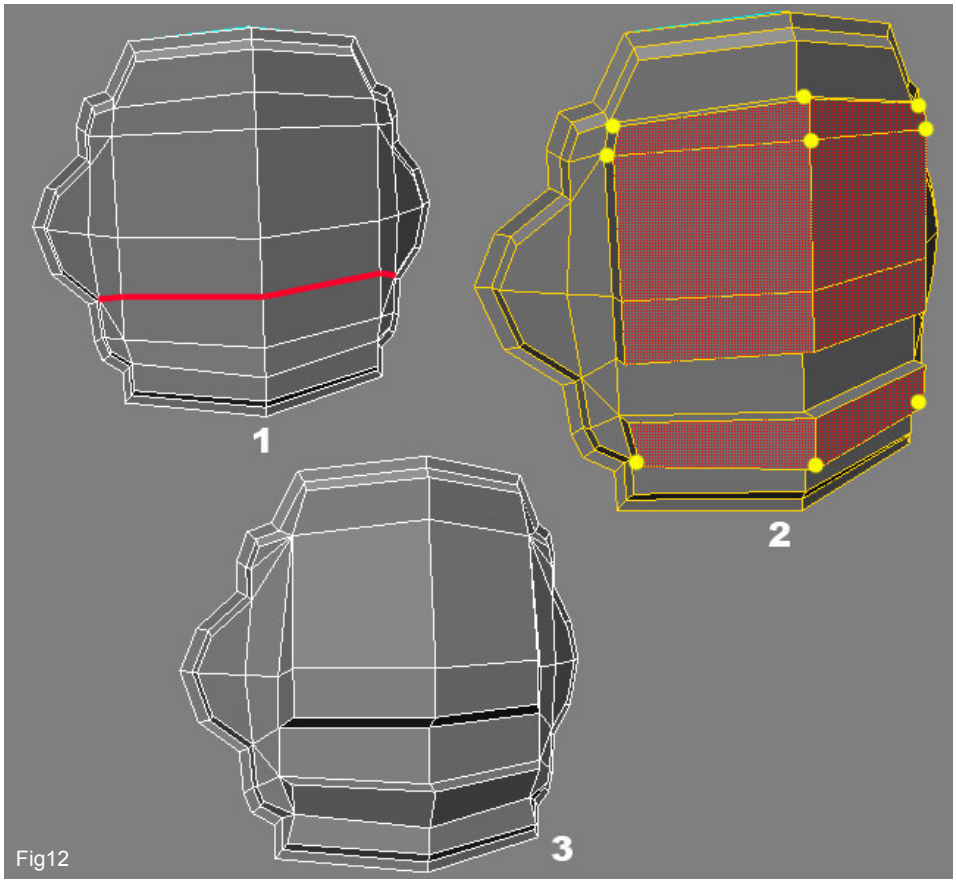
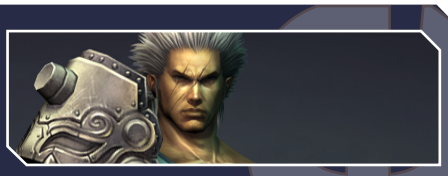


Fig12

12. Create a new cut with Add Edge tool like shown in point 1 of Fig12. Extrude the polygons like in point 2 of Fig12 and weld the vertices marked in yellow. Adjust the vertices to get something like point 3 of Fig12.



13. Create some new cuts all along the mesh like in left part of Fig13. Select the four vertices marked in red and Duplicate/Extrude them. Take some time to adjust the vertices.

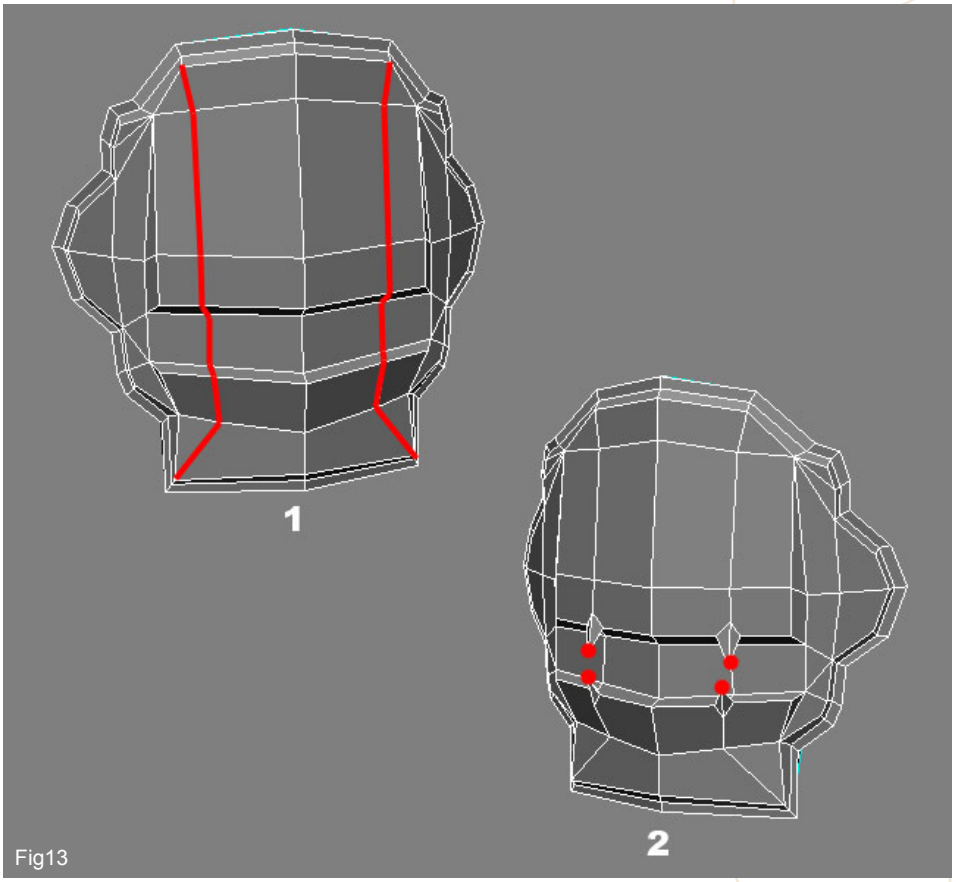


Fig13

14. Now that we have finished with the armour parts, we can add some smaller details. Add two smaller triangular meshes on the shoulder strap. Also, create a small cylinder and position it on the shoulder armour. Finally, create some studs around the wrist. To do this, you can just Duplicate and scale the polygons on the wrist, then Duplicate/Extrude them again and collapse the top polygon to obtain a spiky stud.

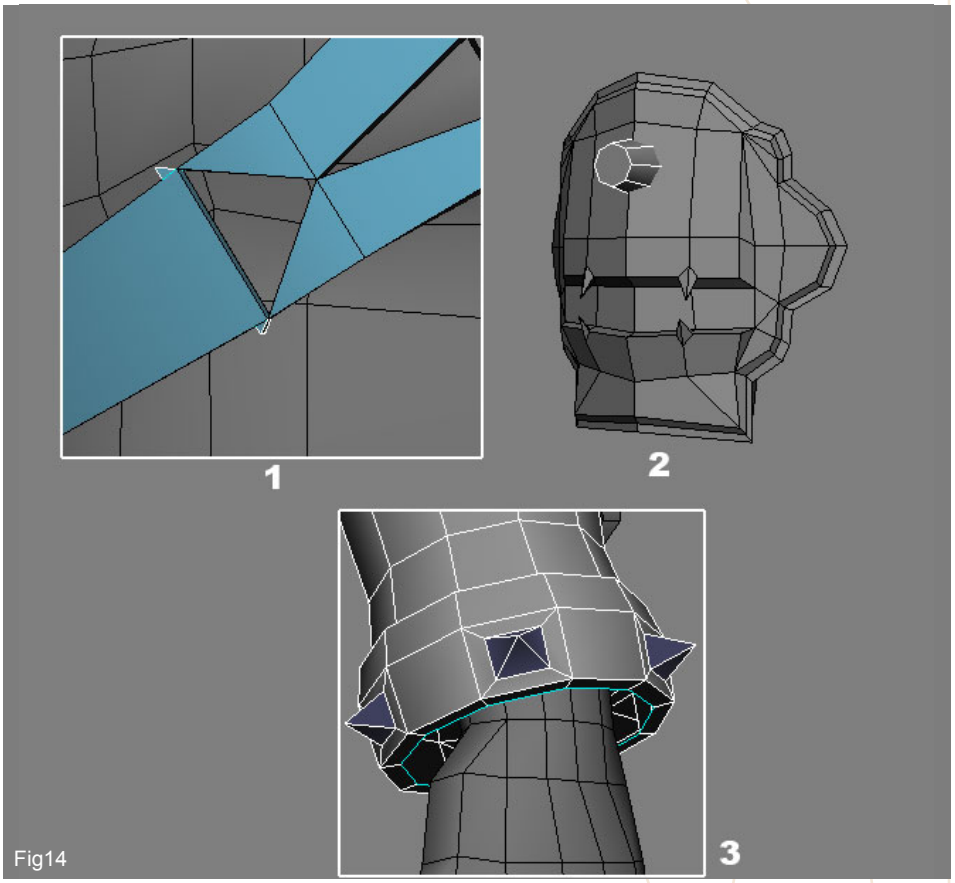
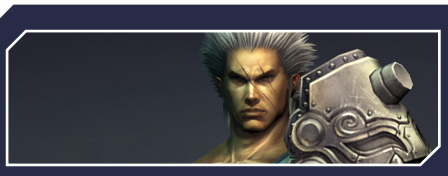
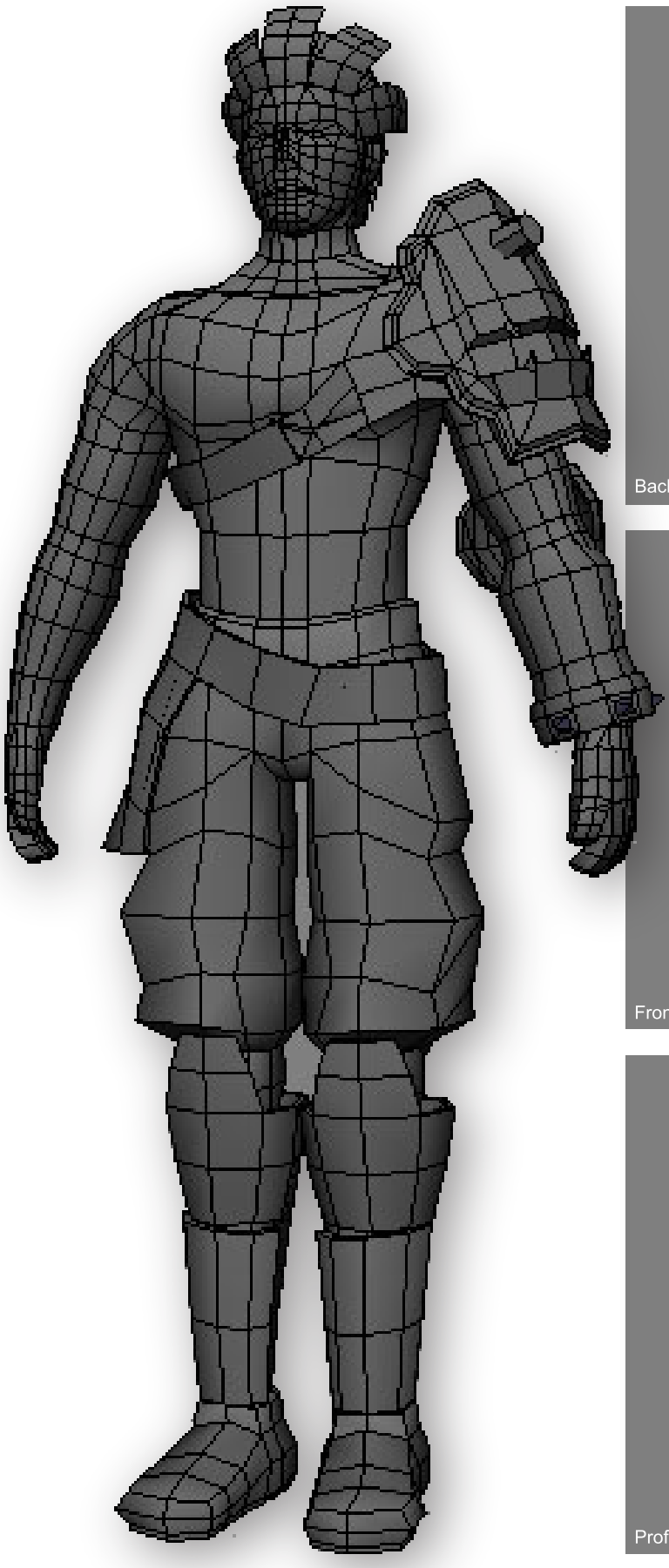
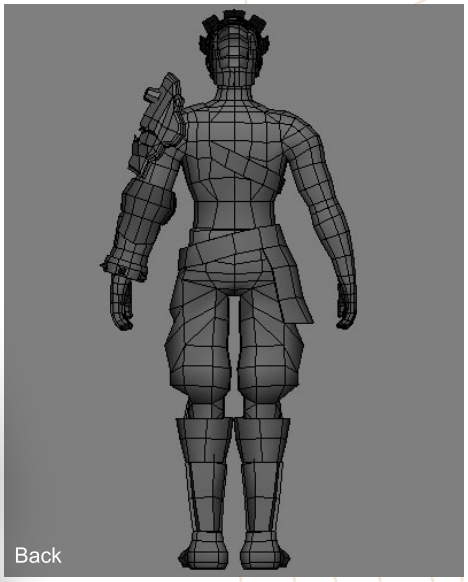
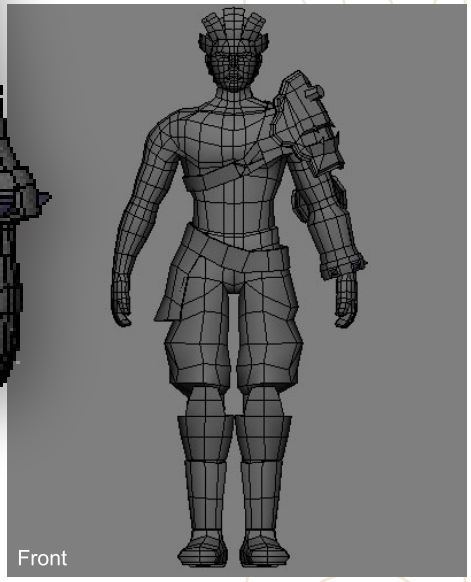


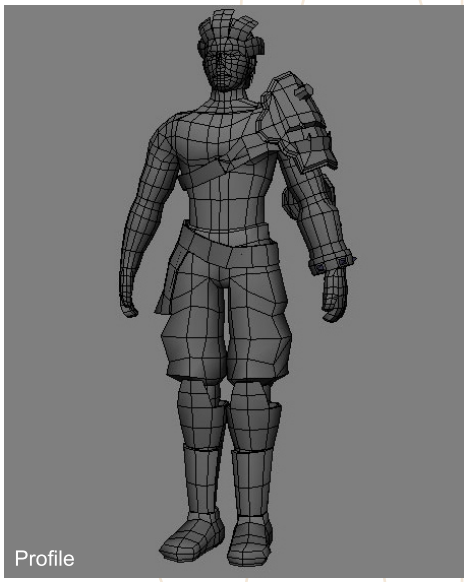
Fig14











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